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NUMBER 127 SEPTEMBER 1967

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

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WILDLIFE REVIEW

An abstracting service for wildlife management
Issued for the information of cooperators
by the Bureau of Sport Fisheries and Wildlife
Fish and Wildlife Service
UNITED STATES DEPARTMENT OF THE INTERIOR

September 1967 Patuxent Wildlife Research Center, Laurel, Md. 20810 No. 127

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Except as indicated, abstracts are by Kenneth J. Chiavetta, editor.

NATURAL RESOURCES & CLIMATE

Rodeck, Hugo G., editor. NATURAL HISTORY OF THE BOULDER AREA. Univ. Colo. Museum, Leaf1. no. 13. iii + 100 p., illus. Aug. 1964. WR 127: 2
Report of a symposium of the same title presented at the meetings of the Am. Inst. Biol. Soc. at the University of Colorado at Boulder during 24-28 Aug. 1964. Three of the reports should be of interest to wildlifers: Amphibians and reptiles of the Boulder Area, (p. 75-80), T. Paul Maslin; Survey of the mammals, (p. 81-89), Horace F. Quick; and Natural resources and early history, (p. 97-100), Richard G. Beidleman.

SOILS

Cline, A. J., and others. SOIL SURVEY OF DELTA-MONTROSE AREA, COLORADO. SCS. i + 73 p., 13 figs. + single-fold maps based on aerial photos and bound in. July 1967. Sold by Supt. Documents. WR 127: 2

Gowans, K. D., and others. SOIL SURVEY OF TEHAMA COUNTY, CALIFORNIA. SCS. i + 124 p., 9 figs. + single-fold maps based on aerial photos and bound in. July 1967. Sold by Supt. Documents. WR 127: 2

Speir, Reginald, and others. SOIL SURVEY OF ADAMS COUNTY, PENNSYLVANIA. SCS. i + 150 p., 13 figs. + single-fold maps based on aerial photos and bound in. May 1967. Sold by Supt. Documents. WR 127: 2
With a section on the use of soils for wildlife and their management.

Williams, John A., and others. SOIL SURVEY OF ZUNI MOUNTAIN AREA, NEW MEXICO. SCS. i + 86 p., 28 figs. + single-fold maps based on aerial photos and bound in. July 1967. Sold by Supt. Documents. WR 127: 2
With a section on wildlife management.

Woods, John C. SOIL SURVEY OF HOUSTON AND PEACH COUNTIES, GEORGIA. SCS. i + 73 p., 16 figs. + single-fold maps based on aerial photos and bound in. July 1967. Sold by Supt. Documents. WR 127: 2
With a section on use of soils for wildlife.

BIBLIOGRAPHIES, DIRECTORIES, BIOGRAPHY, HISTORY

Hein, Dale. SOURCES OF LITERATURE CITED IN WILDLIFE RESEARCH PAPERS. J. Wildl. Mgmt. 31(3): 598-599. July 1967. WR 127: 2
[Wake Forest Coll., Winston-Salem, N.C.] Abstract: In The Journal of Wildlife Management, volumes 28-30, three-fourths of 4,175 references were to serial publications. One-third of these references were to three journals. The 100 most-cited journals accounted for 75 percent of the references to periodicals, and 327 of a total of 599 serial publications were cited only once.

Mackie, Richard J., and Harley W. Yeager. A LIST OF LITERATURE PERTAINING TO WILDLIFE RESEARCH AND MANAGEMENT IN MONTANA. Mont. Fish & Game Dept. Res. Rept., Spec. Rept. no. 1. i + 75 p. 15 Aug. 1966. WR 127: 2
[Univ. Minn., St. Paul.] This compilation was undertaken in an attempt to provide researchers, game managers and others with ready reference to publications, unpublished research reports and other literature concerning wildlife in Montana. It should serve a real purpose in evaluation of past efforts and be useful in determination of future needs and priorities for wildlife research in the state. The principal criterion for inclusion was that the material relate to wildlife research or management work done, at least in part, in Montana. This has included work in Yellowstone National Park. All formal publications--technical, semi-technical and popular--were listed. Unpublished reports and materials were arbitrarily screened and listed only if they contained research results of possible significance or value and are on file and available for reference.--From forward.

PLANTS--GENERAL, ECOLOGY, TECHNIQUES

Hotchkiss, Neil. UNDERWATER AND FLOATING-LEAVED PLANTS OF THE UNITED STATES AND CANADA. Bur. Sport Fisheries & Wildl. Res. Publ. 44. vii + 124 p., illus. May 1967. Available at 65 cents from Superintendent of Documents, GPO, Washington, D.C. WR 127: 3

[Patuxent Wildl. Res. Center, Laurel, Md.] "This is the third of a series of circulars on field identification of North American marsh and water plants. It describes all of the wild flowering plants, ferns, liverworts, and Characeae in which the foliage is habitually under water or floating, and all those which have underwater or floating-leaved forms, and which, at the same time, have characteristics by which a person can tell them apart with the naked eye. If the different kinds cannot be told apart without a hand lens or microscope or when they are without flowers or seeds, only group descriptions are given."

WILDLIFE--BIOTAS, ECOLOGY, NATURAL HISTORY

Ferianc, Oskar. ROZBOR DOTERAJSICH VYZKUMOV A CHARAKTERISTIKA FAUNY ZITNEHO OSTROVA (PODUNAJSKE NIZINY) SO ZRETELOM NA AVIFAUNU. [ANALYSIS OF PAST RESEARCH AND CHARACTERISTICS OF THE FAUNA ON THE ZITNY ISLAND IN THE DONAU BASIN WITH REGARD TO AVIFAUNA.] Biologia (Bratislava) 21(6): 438-452, illus. 1966. [From Biol. Abstr. 48(6), 1967. In Czech.] WR 127: 3

[Komenskeho Univ., Bratislava, Czechoslovakia.]

Sick, Helmut. A FAUNA DO CERRADO. [FAUNA OF THE CERRADA (SAVANNAH).] Agq. Zool. Estad. São Paulo 12: 71-93. 1965. [From Biol. Abstr. 48(7), 1967. In Portuguese with German summ.] WR 127: 3

WILDLIFE--MORPHOLOGY, PHYSIOLOGY, BEHAVIOR, MIGRATION

Andrievskii, I. V., N. V. Lobanov, and V. D. Treus. [SOME BEHAVIOR PATTERNS OF WILD UNGULATES AND BIRDS OF ASKANIYA-NOVA.] In: (Complex forms of behavior.) Nauka (Moscow-Leningrad). p. 116-120. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I640. Transl. of Russian abstr.] WR 127: 3

Laird, Anna Kane. POSTNATAL GROWTH OF BIRDS AND MAMMALS. Growth 30(3): 349-363. Sept. 1966. [From J. Mammal. 48(2), 1967.] WR 127: 3

Prescott, Kenneth W. SLATE-COLORED JUNCO KILLED BY GRAY SQUIRREL. Bird-Banding 38(2): 152. Apr. 1967. WR 127: 3

[N.J. State Museum, Trenton.] A gray squirrel (Sciurus carolinensis) attacked a slate-colored junco (Junco hyemalis) held captive in a mist-net only a few inches above the ground.--Courtesy/ Paul A. Stewart.

WILDLIFE--EFFECTS OF CHEMICALS, WEATHER, CARS, ETC.

Berg, W., A. Johnels, B. Sjöstrand, and T. Westermark. MERCURY CONTENT IN FEATHERS OF SWEDISH BIRDS FROM THE PAST 100 YEARS. Oikos 17: 71-83 1966. [From J. Animal Ecol. 36(2), 1967.] WR 127: 3

Activation analysis of mercury content of feathers of some common game and predatory birds from museum skins and living birds shows that roughly constant mercury levels pertained between 1840 and 1940. Concentrations rose at least 10-20 times in the 1940s and 1950s, this being attributed to the use of alkyl-Hg compounds in seed dressings.

Boykins, Ernest A. THE EFFECTS OF DDT-CONTAMINATED EARTHWORMS IN THE DIET OF BIRDS. BioScience 17(1): 37-39. Jan. 1967. WR 127: 3

[Alcorn A. & M. Coll., Lorman, Miss.] "The work reported here attempts to evaluate the importance of chronic dosages of DDT in the diet of house sparrows (Passer domesticus) and Japanese quail (Coturnix coturnix)."

Grolleau, G. TOXICITÉ DES PRODUITS DE TRAITEMENT DES SEMENCES À L'ÉGARD DES GALLINACÉS-GIBIER. [TOXICITY OF SEED-DRESSING PRODUCTS FOR PARTRIDGES AND PHEASANTS.] Ann. Epiphyties 16(2): 129-143, illus. 1965. [From Biol. Abstr. 48(3), 1967. In French with English and German summ.] WR 127: 4
[Centre Nat. Rech. Zootech., Jouy-en-Josas, France.]

Harrison, J. OIL POLLUTION FIASCO ON THE MEDWAY ESTUARY. Birds 1: 134-136. 1967. [From Ibis 109(3), 1967.] WR 127: 4
A scandalous situation in which 1700 tons of crude oil seriously polluted 8000 acres of saltings in north Kent. Known casualties rallied 2772 birds of 29 species; the real total is likely to have been over 5000. Emulsifying agents, mainly gamlen, were sprayed on to the oil. The eventual effect of the disaster on vegetation and birds is yet to be measured.

Harrison, R. B. THE DETECTION AND DETERMINATION OF ORGANOCHLORINE PESTICIDE RESIDUES IN WILDLIFE (BIRDS) WITH SPECIAL REFERENCE TO ENDRIN. J. Sci. Food Agr. 17(1): 10-13, illus. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 4
[Lab. Government Chem., Cornwall House, London, England.]

Jehl, Joseph R., and D. J. T. Hussell. EFFECTS OF WEATHER ON REPRODUCTIVE SUCCESS OF BIRDS AT CHURCHILL, MANITOBA. Arctic 19(2): 185-191. 1966. [From Biol. Abstr. 48(9), 1967.] WR 127: 4
[Univ. Mich., Ann Arbor.]

Martin, Richard P. EFFECTS OF THE HERBICIDE, 2,4,5-T, ON BREEDING BIRD POPULATIONS. Proc. Okla. Acad. Sci. 46: 235-237. 1966. WR 127: 4
[Okla. State Univ., Stillwater.] Summary: Total populations of nesting birds on 20-acre study areas dominated by postoak-blackjack forest were 17 species and 140 breeding males per 100 acres in the control area compared to 18 species and 205 breeding males in the sprayed area. The sprayed area provided a suitable habitat for significantly more pairs of the following species: eastern bluebird, eastern meadowlark, mockingbird, mourning dove, and bobwhite. The eastern wood pewee, blue-gray gnatcatcher and brown-headed cowbird had higher populations in the treated area than in the control.' Populations of Bell's vireo, brown thrasher, cardinal, yellow-billed cuckoo, summer tanager and yellow-shafted flicker were somewhat larger on the control area but the differences could have been the result of factors other than the changes brought about by the use of herbicides. Based on one season's observations the treatment with herbicides had no marked adverse effect upon any nesting species of birds and actually improved the habitat for a few species.

McLeod, John M. THE EFFECT OF PHOSPHAMIDON ON BIRD POPULATIONS IN JACK PINE STANDS IN QUEBEC. Canadian Field-Nat. 81(2): 102-106. Apr.-June 1967. WR 127: 4
[Forest Res. Lab., Dept. Forestry & Rural Development, Canada.] "Presumably the application of phosphamidon had a deleterious effect on bird populations, but the nature and extent of the effect was not determined. Tests with reduced phosphamidon dosages (ca. 1/8 lb/0.2 gal/acre) proved almost equally effective against the sawfly..., a factor which should in future reduce the amount of bird mortality in aerial spraying operations against the Swaine jack-pine sawfly."

Nowell, Howard C., Jr. WILDLIFE AND OUR HIGHWAY CONSTRUCTION PROGRAM. Forest Notes (N.H. Conserv. Magazine) no. 92. p. 9-13. Winter 1966-67. WR 127: 4
[N.H. Fish & Game Dept., Concord.]

Robinson, J. DYNAMICS OF ORGANOCHLORINE INSECTICIDES IN VERTEBRATES AND ECOSYSTEMS. Nature 215(5096): 33-35. 1 July 1967. WR 127: 5
[Shell Res., Tunstall Lab., Sittingbourne, Kent, England.] Abstract: The dynamics of the diffusion of organochlorine pesticides in ecosystems can be described by a model based on the theory of sets. The model shows that research which relies on measurement of the pesticide at different periods of time can lead to misleading conclusions.

Stewart, Paul A., and Elvin L. Hart. INCIDENTAL CAPTURE OF VERTEBRATE WILDLIFE IN BLACKLIGHT INSECT TRAPS. Am. Midland Nat. 78(1): 235-240, 1 fig. July 1967. WR 127: 5
[Agr. Res. Serv., USDA, Oxford, N.C.] Abstract: Fluorescent blacklight traps, a promising method for aiding in control of some insect pests, caused limited mortality of wildlife when a study was made in North Carolina and Virginia of their effectiveness for controlling tobacco insects. The red bat (Lasiurus borealis) was the chief vertebrate captured; 20 bats were taken in 410 traps in 50,950 trap-nights. Eleven squirrel tree frogs (Hyla squirrela) were taken in one trap in one night, but these were the only frogs captured. Three bluebirds (Sialia sialis) were also taken in one trap, presumably all at the same time; these were the only bluebirds known to have died as a result of trap operation. Other birds captured were four loggerhead shrikes (Lanius ludovicianus), two mockingbirds (Mimus polyglottos), and two house sparrows (Passer domesticus). In an operational program, even this loss of wildlife might be reduced because traps are customarily placed near human homes to allow easy access to electric power, and thus home occupants can easily give the traps regular attention. Under such circumstances, loss of birds should be negligible. Because people generally have little interest in conserving bats, the limited loss of bats cannot readily be controlled. Bat mortality can be restricted by delaying operation of the traps until after 1 June. Capture of the tree frogs appeared to be a fortuitous event.

Tatton, J. O'G., and J. H. A. Ruzicka. ORGANOCHLORINE PESTICIDES IN ANTARCTICA. Nature 215(5099): 346-348, 1 fig. 22 July 1967. WR 127: 5
[Lab. Govt. Chemist, Cornwall House, Stamford St., London, England.] Abstract: The first reports of organochlorine pesticides in wildlife in the vicinity of the US Antarctic base at McMurdo Sound suggested that local human activity might be responsible. Measurements of samples from the British Antarctic Survey Base at Signy Island in the South Orkneys now suggest that there is a world-wide pattern of distribution by means of the oceans and the atmosphere.

WILDLIFE--PARASITES & DISEASES

Bozeman, F. M., A. Shirai, J. W. Humphries, and H. S. Fuller. ECOLOGY OF ROCKY MOUNTAIN SPOTTED FEVER. II. NATURAL INFECTION OF WILD MAMMALS AND BIRDS IN VIRGINIA AND MARYLAND. Am. J. Tropical Med. & Hyg. 16: 48-59. 1967. [From Auk 84(3), 1967.] WR 127: 5
Several strains of R. rickettsii were recovered from six species of native, wild mammals in Virginia; antibodies were detected in sera of 15 different mammal species from Virginia and Maryland. Complement-fixing antibodies were found in 18 species of birds (the snowy egret, downy woodpecker, and 16 species of passerines most of which spend some time on the ground).

WILDLIFE--POPULATIONS & FLUCTUATIONS

Bellman, R., H. Kagiwada, and R. Kalaba. INVERSE PROBLEMS IN ECOLOGY. J. Theoretical Biol. 11(1): 164-167, illus. 1966. [From Biol. Abstr. 48(2), 1967.] WR 127: 5
[Rand Corp., Santa Monica, Calif.] The question of describing interactions of populations is studied. From observations of population growths, parameters

in models may be estimated. This concept is illustrated by an example of two interacting species. The sensitivity of the parameters to the accuracy of the observations is computationally investigated, using the technique of quasi-linearization.

Dziecioŀowski, Ryszard, and Jerzy Pawŀowski. REGENERACJE FAUNY WIEKSZOSCI SSAKÓW I PTAKOW PASMA BABIOGÓRSKIEGO. [REGENERATION OF LARGE MAMMAL AND LARGE BIRD FAUNA ON BABIA GORA MOUNTAINS (WESTERN CARPATHIANS).] Przegl. Zool. 8 (3): 246-254, illus. 1964. [From Biol. Abstr. 48(7), 1967. In Polish with English summ.] WR 127: 6
[Polish Zool. Soc., Breslau, Poland.]

Helminen, Matti. RIISTATILANNE METSÄSTYSKAUSIEN 1964/65 JA 1965/66 PÄÄTTYESSÄ. [RELATIVE ABUNDANCE OF SOME GAME AND FUR SPECIES IN FINLAND AT THE END OF THE 1964/65 AND 1965/66 HUNTING SEASONS.] Suomen Riista 19: 145-155, 24 maps. 1966. In Finnish with English summ. WR 127: 6
Relative abundance figures for capercaillie, black grouse, hazel grouse, willow grouse, partridge, snow hare, brown hare, squirrel, muskrat, fox, ermine, and moose.

Holgate, P. POPULATION SURVIVAL AND LIFE HISTORY PHENOMENA. J. Theoretical Biol. 14(1): 1-10, illus. 1967. [From Biol. Abstr. 48(11), 1967.] WR 127: 6
[Nature Conserv., Belgrave Square, London, England.]

Turner, M., and M. Watson. A CENSUS OF GAME IN NGORONGORO CRATER. East African Wildl. J. 2: 165-168, 1 fig. Aug. 1964. WR 127: 6
Counts made of wildebeest, zebra, gazelle, eland, elephant, rhino, waterbuck, and ostrich.

WILDLIFE--TECHNIQUES

Bryan, John H. D. A MULTI-PURPOSE INFORMATION RETRIEVAL SYSTEM BASED ON EDGE-NOTCHED CARDS. BioScience 16(6): 402-407, 2 figs. June 1966. WR 127: 6
[Iowa State Univ., Ames.] An information retrieval system is described which uses edge-notched cards. It differs from many otherwise similar systems in that it has been designed for cataloging a broad spectrum of items. It is therefore well suited for research and teaching purposes. This system has a further advantage in that it is highly flexible and thus may be modified in a number of ways to specifically adapt it to individual needs or preferences.--From summ.

Colwell, Robert N. REMOTE SENSING AS A MEANS OF DETERMINING ECOLOGICAL CONDITIONS. BioScience 17(7): 444-449, 8 figs. July 1967. WR 127: 6
[Univ. Calif., Berkeley.] "The use of an aerial viewpoint, coupled with the sophisticated sensors currently available to collect data, provides the ecologist with a useful tool to aid in his understanding of various ecological conditions. The reader is cautioned that remote sensing techniques will not eliminate on-the-ground observation, but will complement standard ground sampling techniques."

Gates, David M. REMOTE SENSING FOR THE BIOLOGIST. BioScience 17(5): 303-307, 6 figs. May 1967. WR 127: 6
[Mo. Botanical Garden, St. Louis.] An introductory paper. "The term remote sensing means, in the context used here, the detection and interpretation of the features of a surface without direct contact with the surface. Remote sensing would imply the use of electromagnetic radiation (light, heat, radar, etc.), sound waves, or ionizing radiation (beta rays, gamma rays, X-rays, etc.) for the transmittal of information. Generally, by remote sensing of a surface one would expect to obtain information concerning texture, composition, color, and temperature. More specifically, one would obtain information concerning structure, shape, composition, productivity, moisture content, type of vegetation, rock form, crop disease, mineral deficiency in crops, and other similar

information. There is no doubt that remote sensing of the earth's surface is useful in a general ecological sense. As with any technique, the more it is used the greater is the information which is derived. Within a few years we may see an amazing amount of ecological information produced in this way."

Mech, L. David. TELEMETRY AS A TECHNIQUE IN THE STUDY OF PREDATION. J. Wildl. Mgmt. 31(3): 492-496, 2 figs. July 1967. WR 127: 7
[Macalester Coll., St. Paul, Minn.] Abstract: Eight snowshoe hares (Lepus americanus) and five cottontail rabbits (Sylvilagus floridanus) were radio-tagged and tracked by an automatic system. Three of the hares, injured upon capture, lived an average of 2.3 days before being killed by predators. The remaining five survived for an average of at least 28.2 days. Of two uninjured rabbits killed, one was preyed upon within an hour after being disturbed; the other evaded predators for 24 days. Red foxes (Vulpes fulva) and owls probably were the main predators. Accounts of each instance of predation are given, including one in which both predator and prey were radio-tagged. The potential of telemetry for predation studies is emphasized, and suggestions are made for setting up such studies.

Mitchell, Charles T. AN INEXPENSIVE, SELF-CONTAINED UNDERWATER DATA RECORDING CAMERA. Calif. Fish & Game 53(3): 203-208, 4 figs. July 1967. WR 127: 7
[Calif. Dept. Fish & Game, Sacramento.] Abstract: An inexpensive data recording camera with underwater housing designed for shallow water use is described. The unit requires no tending while in operation and will operate for long periods of time.

Roy, O. Z. TELEMETRY ON A SHOE-STRING. Med. Biol. Eng. 4(6): 599-602, illus. 1966. [From Biol. Abstr. 48(11), 1967.] WR 127: 7
[Radio & Electr. Eng. Div., Nat. Res. Council, Ottawa, Ontario, Canada.]

Taylor, William Ralph. AN ENZYME METHOD OF CLEARING AND STAINING SMALL VERTEBRATES. Proc. US Natl. Museum 22(3596): 1-17. 1967. WR 127: 7
[US Natl. Museum, Washington, D.C.] "I have used the enzyme method successfully to clear several hundred specimens of fishes of more than 100 species, belonging to 40 families, and also several specimens of amphibians, reptiles, and mammals. The method has been of value in restoring glycerin specimens of fishes that had been treated previously with potassium hydroxide. The enzyme method would thus appear to be useful as a means of clearing small specimens of all vertebrates."

WILDLIFE--MANAGEMENT & RESEARCH, GENERAL

Arvey, M. Dale, and William J. Riemer. INLAND BIOLOGICAL FIELD STATIONS OF THE UNITED STATES. BioScience 16(4): 249-254, 1 fig. Apr. 1966. WR 127: 7
A listing of 42 installations. Information is provided on the location (and postal address if different), administering officer, physical habitat, research program, instructional program, and dates of operation of each station.

Div. of Federal Aid. FEDERAL AID IN FISH AND WILDLIFE RESTORATION PUBLICATIONS. REGION 4. Bur. Sport Fisheries & Wildl. (Atlanta, Ga.). i + 128 p. (variously paged). May 1967. WR 127: 7
"This list of publications was compiled to apprise conservationists of existing literature supported by Federal Aid on fish and wildlife research and restoration activities in the Southeastern United States from 1938 through 1965." The list is arranged by state and year. Publications for Puerto Rico and the Virgin Islands are included.

Erz, Wolfgang. GESICHTSPUNKTE ZUR WILDNUTZUNG AUF LAND-WIRTSCHAFTLICHER BASIS IN AFRIKA. [UTILIZATION OF GAME ANIMALS IN AFRICA AS AN AGRICULTURAL BASIS.] Tierzücht Züchtungsbiol. 82(4): 348-360, illus. 1966. [From Biol. Abstr. 48(9), 1967. In German with English summ.] WR 127: 8

[Christian-Albrechts-Univ., Kiel, Germany.] An increase of agricultural production will be possible by economical wildlife utilization, especially in marginal areas and areas infested by stock diseases. Population densities of game species frequently exceed those of domestic cattle, but game make more efficient and more conservative use of their range. Larger parts of plant production are used and water requirements are lower. Game animals are resistant to trypanosomiasis (nagana). Data on areas and productivity of game utilization from Southern Africa are given. Game species seem to yield higher dressing percentages and higher protein contents than cattle. Capital investment is lower in game cropping than in stock farming. Problems arise for exact analyses of biological data on production and productivity. After the contributions of biologists are made, there is still the need for considerations of these new ideas by agriculturists and animal breeders. Game utilization is in accordance with the urgent needs for wildlife conservation in Africa.

Hamor, Wade H. MANAGING FARMLAND FOR PAID HUNTING. Soil Conserv. 32(8): 171-173, illus. Mar. 1967. WR 127: 8

[SCS, Lincoln, Nebr.] Fourteen acres of a 160-acre farm in south-central Iowa were developed for wildlife. The annual cost of about $246 for development, management, and operation is the amount the farm must yield in fees from hunters to offset the loss of return from crop and pasture land converted to wildlife use plus the investment in habitat development.

WILDLIFE--INTRODUCTIONS

Ganzak, Jan. [INTRODUCTION OF MAMMALS INTO CZECHOSLOVAKIA.] Okhota & Okhotnich'e Khoz. 1964(5): 52-53. 1964. [From Biol. Abstr. 48(5), 1967, from Referat. Zhur., Biol., 1965, no. 11226. Transl. of Russian abstr.] WR 127: 8

Sludskii, A. A., and Yu. G. Afanas'ev. [RESULTS AND PROSPECTS FOR THE ACCLIMATIZATION OF GAME ANIMALS INTO KAZAKHSTAN.] Trudy Inst. Zool. Akad. Nauk Kaz. SSR 23: 5-74. 1964. [From Biol. Abstr. 48(2), 1967, from Referat. Zhur., Biol., 1965, no. 11222. Transl. of Russian abstr.] WR 127: 8

Yanushevich, A. I., editor. ACCLIMATIZATION OF ANIMALS IN THE U.S.S.R. PROCEEDINGS OF THE CONFERENCE ON ACCLIMATIZATION OF ANIMALS IN THE U.S.S.R. HELD IN FRUNZE, 10-15 MAY, 1963. Published for the U.S. Atomic Energy Commission and the National Science Foundation by the Israel Program for Scientific Translations (Jerusalem). AEC-tr-6206. xiv + 250 p. 1966. Russian original published by Izdat. Akad. Nauk, Kazakh, SSR (Alma-Ata) in 1963. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $6.00.] WR 127: 8

A collection of 180 papers grouped as follows: General problems, mammals and birds, fishes and aquatic invertebrates, insects, and acclimatization and problems of parasitology.

WILDLIFE--FOOD HABITS & TECHNIQUES

Griffiths, M., and R. Barker. THE PLANTS EATEN BY SHEEP AND BY KANGAROOS GRAZING TOGETHER IN A PADDOCK IN SOUTH-WESTERN QUEENSLAND. CSIRO Wildl. Res. 11(2): 145-167, 8 figs. + 2 pls. Dec. 1966. WR 127: 8

[CSIRO, Canberra, Australia.]

WILDLIFE--PREDATION, CROP DAMAGE, CONTROL

Carpenter, Max. CONTROL OF DEER DAMAGE. Va. Wildl. 28(5): 8-9, 3 figs. May 1967. WR 127: 9

Summary: The white-tailed deer is a large animal requiring a lot of food and will browse on many species of plants. They prefer plants grown in fertile soil such as garden vegetables, soybeans, corn, tender wheat, and young trees in orchards. When this happens, it means a loss to the landowner who has inherited these animals. There are several ways to reduce or stop this damage. The most logical way is to remove some during the legal shooting season. After this has been done, the remaining deer can be kept away from crops by the use of frightening devices and repellents that have a bad odor. The use of tankage has proved the most effective to date.

Dasmann, Raymond F., Richard L. Hubbard, William M. Longhurst, George I. Ramstead, Joseph H. Harn, and Emmett Calvert. DEER ATTRACTANTS / AN APPROACH TO THE DEER DAMAGE PROBLEM. J. Forestry 65(8): 564-566. Aug. 1967. WR 127: 9

[Humboldt State Coll., Arcata.] Abstract: The authors discuss the possibilities of using "attractants" to lure deer away from conifer reproduction. Some examples of attractants discussed are: (1) molasses, other sweeteners, minerals, or trace elements which, when sprayed on plants, increase the plant's palatability to deer; (2) plants which are naturally highly preferred by deer; (3) supplements such as hay, pellets, or trees and large brush plants which are felled so that deer can feed on foliage that they could otherwise not reach.

Hirst, S. M. ECOLOGICAL ASPECTS OF BIG GAME PREDATION. Fauna & Flora (Transvaal) 16: 3-15, illus. 1965. [From Biol. Abstr. 48(2), 1967.] WR 127: 9

Briefly these are:--(1) Predation is a limiting factor of game populations, but the extent varies. In well-balanced ecosystems predation appears to limit the population in so far as it prevents population levels being maintained by more dangerous limits such as food supply. (2) Predation is an effective biological control of sick and diseased game and generally maintains a high genetic standard in game herds. (3) Predation cannot be held responsible for reducing game populations to dangerous levels.

Humphries, D. A., and P. M. Driver. ERRATIC DISPLAY AS A DEVICE AGAINST PREDATORS. Science 156(3783): 1767-1768. 30 June 1967. WR 127: 9

[Uffculme Clinic, Birmingham, England.] Abstract: Prey animals in many different taxonomic groups behave erratically when attacked by predators. This reaction is not accidental, but acts as a specific antipredator device. Observational data and theoretical considerations indicate that such protean displays function to confuse and disorient the predator and to increase its reaction time. Thus the survival of the prey is assisted, and the selective advantage whereby such erratic patterns of the prey animals may have evolved is created.

Koch, H., and W. Hartung. [ECONOMIC CONSIDERATIONS TO VARIOUS PRECAUTIONS AGAINST BROWSING BY GAME.] Sozialistische Forstwirtsch 16(8): 248-249. Aug. 1966. [From Bibliog. Agr. 31(6), 1967. In German with English summ.] WR 127: 9

Penistan, M. J. CONTROL OF WILDLIFE IN WOODLAND IN SOUTHWEST ENGLAND. Forestry 39: 17-21. 1966. [From J. Animal Ecol. 36(2), 1967.] WR 127: 9

Past management and mismanagement. Present methods based on careful observation in co-operation with all interests. Deer management under local conditions.

Roth, C. [SILVER FIR BUD PROTECTION.] Schweiz. Z. Forstwesen 117(11): 850. Nov. 1966. [From Bibliog. Agr. 31(6), 1967. In German.] WR 127: 9

"Against browsing with cement and lime mixture dubbing."

WETLANDS & WILDLIFE

Rieck, Carroll A. MALLARD INTRODUCTIONS AND ECOLOGICAL CHANGES FROM FERTILIZATION ON A BEAVER POND. Murrelet 47(3): 66-72, 1 fig. Sept.-Dec. 1966. WR 127: 10
[Wash. Dept. Game, Olympia.]

Zhadin, V. I., and S. V. Gerd. FAUNA AND FLORA OF THE RIVERS, LAKES AND RESERVOIRS OF THE U.S.S.R. Published for the Smithsonian Institution and the National Science Foundation by the Israel Program for Scientific Translations (Jerusalem). OTS 63-11166. [iii] + 626 p., 315 figs. 1963. Russian original published by Gosudarstvennoe Uch.-Pedagog. Izdat. Min. Prosveshcheniya RSFSR (Moscow) in 1961. [Translation available from U. S. Dept. of Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $6.25.] WR 127: 10
Contents: A history of the study of freshwater life; Plants and animals of fresh waters of the USSR; Environment of freshwater organisms; USSR rivers and their biological content; Fauna and flora of USSR lakes; Artificial reservoirs and their biology; and Prospects of exploiting the potential of USSR waters.

FARMLAND & WILDLIFE

Moore, N. W., M. D. Hooper, and B. N. K. Davis. HEDGES. I. INTRODUCTION AND RECONNAISSANCE STUDIES. J. Appl. Ecol. 4(1): 201-220, 3 figs. May 1967. WR 127: 10
[Monks Wood Exptl. Sta., Abbots Ripton, Huntingdonshire, England.] Hedgerows, which have been an important feature of the landscape for at least 700 years, are being steadily destroyed throughout the British Isles. The rate of destruction varies between regions. In one district 71% of the total original length of hedges has been destroyed during the last 20 years. Away from roads very few new hedges are being planted. Many bird species of farmland depend on hedges. Species and numbers depend both on the shrub species and on the type of hedge management. The abundance of different hedgerow trees varies between regions. The proportion of saplings to mature trees is less now than it was in 1951.--From summ.

Strohmeyer, David L., and Leigh H. Fredrickson. AN EVALUATION OF DYNAMITED POTHOLES IN NORTHWEST IOWA. J. Wildl. Mgmt. 31(3): 525-532, 3 figs. July 1967. WR 127: 10
[Minn. Museum Nat. Hist., Minneapolis.] Abstract: An evaluation of potholes created with dynamite in 1940 and 1941 was initiated in 1962. Of 21 potholes originally formed, 19 were located and measurements of length, width, and maximum depth were taken. Data were collected on emergent vegetation and use of the openings by nesting birds. The potholes had lost 71 percent of their original depth after 21-22 years, the depth in 1962 being nearly uniform for all potholes regardless of original depth. Potholes resulting from four blasting patterns were nearly equal in absolute depth. Depth retention was best for potholes in the coarser soil types, and for those blasted in areas with water standing above the soil surface. The potholes remained effective in restricting emergent vegetation, their edges perhaps influencing nest location because some of the nests found on the area were closely associated with the artificial openings. However, natural processes were of greater importance in determining cover-water interspersion.

RANGELAND & WILDLIFE

Bailey, James A. SAMPLING DEER BROWSE FOR CRUDE PROTEIN. J. Wildl. Mgmt. 31(3): 437-442, 2 figs. July 1967. WR 127: 10
[N.Y. State Coll. Forestry, Syracuse.] Abstract: A comparison of methods for sampling witch-hobble (Viburnum alnifolium) deer browse indicated that pieces of browse contained higher concentrations of crude protein when (1) twigs were clipped more closely behind their terminal buds; (2) browse was

collected from lower rather than upper portions of the plant crowns; and (3) browse included flower buds or lateral buds rather than only terminal vegetative buds. Effects of these sources of variation among protein levels for pieces of browse were quantified. Sampling efficiency can be increased by standardizing collection methods to eliminate these effects. Protein levels in witch-hobble remained constant during January to mid-March. It is suggested that composite samples of ground browse produce biased results. Deer on overbrowsed range may consume less protein than deer on better range to the extent that they eat more stem tissue and to the extent that overbrowsed plants fail to produce flower buds.

Blair, Robert M. DEER FORAGE IN A LOBLOLLY PINE PLANTATION. J. Wildl. Mgmt. 31(3): 432-437. July 1967. WR 127: 11

[Southern Forest Expt. Sta., Nacogdoches, Texas.] Abstract: Browse yields in a 30-year-old plantation thinned at ages 20 and 25 years were directly related to the amount of pine removed and varied from 154 lb (oven-dry) per acre under light thinning to 199 lb/acre under heavy thinning. At plantation age 35, five growing seasons after a third thinning, browse yields were inversely related to pine-thinning intensity, ranging from 255 lb/acre in lightly thinned stands to 195 lb/acre in those heavily thinned. Many of the young hardwoods and shrubs had grown beyond the reach of deer and formed a multilayered midstory that inhibited plant growth beneath. Midstory density increased with intensity of pine thinning.

Lay, Daniel W. DEER RANGE APPRAISAL IN EASTERN TEXAS. J. Wildl. Mgmt. 31 (3): 426-432, 1 fig. July 1967. WR 127: 11

[Texas Parks & Wildl. Dept., Nacogdoches.] Abstract: A rapid method for appraising deer ranges was developed in eastern Texas from 1956-64 in late winter visits of 1 day each to a number of deer ranges. The method comprises three steps: browse inventory and utilization, palatability classification, and calculation and interpretation of indices. The unique aspect of the method is the comparison of utilization of three palatability classes as an expression of light, moderate, or heavy stocking. The survey is suggested as a tool with which to achieve sound deer management decisions and hunter support for them.

Nagy, J. G., G. Vidacs, and G. M. Ward. PREVIOUS DIET OF DEER, CATTLE, AND SHEEP AND ABILITY TO DIGEST ALFALFA HAY. J. Wildl. Mgmt. 31(3): 443-447, 1 fig. July 1967. WR 127: 11

[Colo. State Univ., Fort Collins.] Abstract: The capacity of rumen microorganisms of deer, cattle, and sheep on different diets to digest alfalfa hay was tested in an artificial rumen system by measuring the production of gas and short chain fatty acids. Inocula were obtained from the rumens of (1) four wild deer on a natural winter browse diet, (2) one captive deer fed a starvation diet of sagebrush, (3) a cow on a hay diet, (4) the same cow on hay and concentrate, and (5) two sheep on hay and concentrate. Production of short chain fatty acids by the inoculum of the deer fed sagebrush was significantly lower than that from all other animals. Except for appreciably smaller percentages of butyrate and iso-valerate plus valerate by the inoculum of the deer fed sagebrush, the composition of short chain fatty acids produced was very similar among all inoculum sources. Production of gas by the inoculum of the deer fed sagebrush was significantly less than that from all other animals. Inocula from the sheep and the cow fed concentrate and hay produced more gas, and those from the deer on browse and the cow on hay produced similar but progressively larger amounts. These results indicate that normal wild deer, like domestic ruminants, have a microflora capable of digesting hay and converting it to volatile fatty acids. However, by the time that starving deer arrive at a hay supply, the rumen microorganisms may be completely dead or contain low energy reserves.

Telfer, Edmund S. COMPARISON OF MOOSE AND DEER WINTER RANGE IN NOVA SCOTIA. J. Wildl. Mgmt. 31(3): 418-425, 5 figs. July 1967. WR 127: 12
[Canadian Wildl. Serv., P.O. Box 4000, Fredericton, New Brunswick, Canada.]
Abstract: Moose (Alces alces) were common in all parts of mainland Nova Scotia before 1940. Densities then declined, owing to "moose sickness," coincident with increased deer abundance. However, moose populations remain high on the uplands of the northeastern mainland. In an effort to explain this density pattern, populations were studied on representative areas in the highlands and adjoining lowlands. Adjacent units of winter range of white-tailed deer (Odocoileus virginianus) and moose were little different as to geology, soils, vegetation, and winter temperatures. Deer move off the uplands in winter, probably because of greater depth of snow; moose stay on the uplands the year around. This separation of moose and deer occurs when the incidence of "moose sickness" appears highest in other parts of Nova Scotia.

Tikhomirov, B. A. THE INTERRELATIONSHIPS OF THE ANIMAL LIFE AND VEGETATIONAL COVER OF THE TUNDRA. Published for the U.S. Dept. Agriculture and the National Science Foundation by the Israel Program for Scientific Translations (Jerusalem). TT 65-50037. iv + 68 p., 34 figs. 1966. Russian original published by Izdat. Akad. Nauk SSSR (Moscow-Leningrad) in 1959.
[Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $3.00.]
WR 127: 12
Table of contents: I-Principal characteristics of the tundra fauna; II-Natural characteristics of the tundra and their effect on the biology and distribution of the fauna; III-Invertebrates of the tundra and their relationship with the vegetation; IV-Rodents and their relationship with the vegetation; V-The ornithofauna and its relationship with the vegetation; VI-Ungulates ; VII-Carnivores, their influence on the tundra habitats and vegetation; Conclusions; Bibliography. Most of the publications listed in the 7-page bibliography are in Russian with translated titles.

MAMMALS--GENERAL

Andersson, Ake, and Lennart Hansson. SMADAGGDJURSUNDERSÖKNINGAR I NORRA NORGE 1965. [SMALL MAMMAL INVESTIGATIONS IN NORTHERN NORWAY 1965.] Fauna & Flora 2: 49-72, illus. 1966. [From Biol. Abstr. 48(7), 1967. In Norwegian with English summ.] WR 127: 12

Ghizelea, Gabriela. SMALL MAMMALS FROM SOME FORESTS OF BUCHAREST REGION (ECOLOGY, DISTRIBUTION). Trav. Mus. Hist. Nat. Grigore Antipa 5: 405-422, illus. 1965. [From Biol. Abstr. 48(1), 1967. In English with Russian and Romanian summ.] WR 127: 12

Huber, W., U. Graf, and I. Wandeler. ZUR BIOMETRIE DES SÄUGETIERSCHWANZES. [ON THE BIOMETRY OF THE TAILS OF MAMMALS.] Rev. Suisse Zool. 73(27): 455-467, 14 figs. Sept. 1966. In German. WR 127: 12

Makarova, A. R. [OBSERVATIONS ON THE FEEDING BEHAVIOR OF SOME MAMMALS.] In: (Complex forms of behavior.) Nauka (Moscow-Leningrad). p. 134-138. 1965. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1966, no. 21599. Transl. of Russian abstr.] WR 127: 12

Papadopol, Aurel, and Gabriela Ghizelea. CONTRIBUTIONS Á LA CONNAISSANCE DE QUELQUES MAMMIFÈRES DE LA RÉGION DE JASSY. [CONTRIBUTIONS TO THE KNOWLEDGE OF SOME MAMMALS IN THE JASSY REGION (ROMANIA).] Trav. Mus. Hist. Nat. Grigore Antipa 5: 389-404, illus. 1965. [From Biol. Abstr. 48(1), 1967. In French with Russian and Romanian summ.] WR 127: 12

Pruitt, William O., Jr. ECOLOGY OF TERRESTRIAL MAMMALS. In: (Environment of the Cape Thompson Region, Alaska.) US AEC (Oak Ridge, Tenn.). p. 519-564, illus. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 13
[Memorial Univ. Newfoundland, St. John's, Newfoundland, Canada.]

Steiner, H. M. SÄUGETIERE AUS DEM BEYSEHIR-GEBIET (VIL. KONYA, KLEINASIEN). [MAMMALS FROM THE BEYSEHIR REGION (VILLAGE IN KONYA PROVINCE (TURKEY) ASIA MINOR).] Zool. Anz. 176(2): 97-102. 1966. [From Biol. Abstr. 48(4), 1967. In German.] WR 127: 13
[Larwingasse 8, Vienna, Austria.]

MAMMALS--TECHNIQUES

Kleinenberg, S. E., and G. A. Klevezal'. [AGE DETERMINATION IN MAMMALS BY THE STRUCTURE OF TOOTH CEMENT.] Zool. Zhur. 45(5): 717-724, illus. 1966. [From Biol. Abstr. 48(4), 1967. In Russian with English summ.] WR 127: 13
[Inst. Animal Morphol., Acad. Sci. USSR, Moscow, USSR.]

Orr, D. J. C., and S. M. Moore-Gilbert. LONG-TERM MARKING OF AFRICAN GAME ANIMALS BY BRANDING. East African Wildl. J. 2: 161-163, 1 fig. Aug. 1964. WR 127: 13
A propane-heated soldering iron was successfully used for branding several species of big game mammals. Necessary precautions and limitations in the use of the technique are discussed.

MAMMALS--FAUNAS & MANUALS

Child, Graham, and C. R. Savory. THE DISTRIBUTION OF LARGE MAMMAL SPECIES IN SOUTHERN RHODESIA. Arnoldia 1(14): 1-15, 32 figs. 16 Oct. 1964. WR 127: 13
[Natl. Museum Bulawayo, Rhodesia.]

Copland, W. O., and W. G. Teagle. A PRELIMINARY SURVEY OF THE MAMMALS OF BROWNSEA ISLAND. Proc. Dorset Nat. Hist. Archaeol. Soc. 86: 86-95. 1965. [From J. Animal Ecol. 36(2), 1967.] WR 127: 13

Flint, V. E., Yu. Chugunov, and V. M. Smirin. [MAMMALS OF THE USSR.] Mysl' (Moscow). 437 p., illus. 1965. Price 1 ruble 65 kopecks. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 11488K. In Russian.] WR 127: 13

Iverson, Stuart L., Robert W. Seabloom, and Joseph M. Hnatiuk. SMALL-MAMMAL DISTRIBUTIONS ACROSS THE PRAIRIE-FOREST TRANSITION OF MINNESOTA AND NORTH DAKOTA. Am. Midland Nat. 78(1): 188-197, 1 fig. July 1967. WR 127: 13
[Univ. British Columbia, Vancouver, Canada.] Abstract: Thirteen taxa of small mammals were collected in the continuous forest, aspen groves, riparian woodland and prairie areas of the prairie-forest transition. Mammals captured were placed in three groups on the basis of habitat selection. Of the forest species, Peromyscus maniculatus gracilis was the most restricted and occurred only in or near conifer forest. P. leucopus noveboracensis was found in coniferous, deciduous and river-bottom forests and in large aspen groves. Clethrionomys gapperi had a similar distribution, but was also found in some small aspen groves with grassy ground cover. Tamias striatus was collected in the continuous forest and nearby large groves. Eutamias minimus and Synaptomys cooperi were collected only in the continuous forest. The prairie species, P. m. bairdii, Onychomys leucogaster and Microtus pennsylvanicus, were found essentially in grassland situations. P. m. bairdii also occurs in aspen groves and river-bottom forests where P. l. noveboracensis is absent. M. pennsylvanicus appears to be a permanent resident in young groves with a grassy undercover. The non-selective species, Sorex cinereus, Blarina brevicauda and

Zapus hudsonius, were found throughout the area in all habitats trapped. Sorex arcticus may also be present in moister habitats throughout the transition. The small-mammal fauna of the prairie-forest ecotone includes fragments of both prairie and forest faunas and reflects the state of flux in the plant associations.

Johnston, David W. ECOLOGY AND DISTRIBUTION OF MAMMALS AT HIGHLANDS, NORTH CAROLINA. J. Elisha Mitchell Sci. Soc. 83(2): 88-98. Summer 1967. WR 127: 14

[Univ. Fla., Gainesville.] Annotated list of 50 spp.

Ognev, S. I. MAMMALS OF EASTERN EUROPE AND NORTHERN ASIA. VOL. I. INSECTIVORA AND CHIROPTERA. Published for the National Science Foundation and the Smithsonian Institution by the Israel Program for Scientific Translations (Jerusalem). OTS 60-21818. [xx] + 487 p., 284 figs. 1962. Russian original published by Glavnauka-Gos. Izdat. (Moscow-Leningrad) in 1928. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $5.00.] WR 127: 14

Diagnoses [physical characteristics], systematic notes, geographical distribution and mode of life of 140 spp. and sspp. of moles, hedgehogs, shrews and bats.

Ognev, S. I. MAMMALS OF EASTERN EUROPE AND NORTHERN ASIA. VOL. II. CARNIVORA (FISSIPEDIA). Published for the National Science Foundation and the Smithsonian Institution by the Israel Program for Scientific Translations (Jerusalem). OTS 60-21819. [xx] + 590 p., 202 figs. 1962. Russian original published by Glavnauka-Gos. Izdat. (Moscow-Leningrad) in 1931. [Translation available from the U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $6.25.] WR 127: 14

One hundred-twenty-one spp. and sspp. of the following terrestrial carnivore families are treated: Orsidae, Canidae, Hyaenidae, and Mustelidae. Addenda to Volumes I and II are included.

Ognev, S. I. MAMMALS OF USSR AND ADJACENT COUNTRIES. VOL. III. CARNIVORA (FISSIPEDIA AND PINNIPEDIA). Published for the National Science Foundation and the Smithsonian Institution by the Israel Program for Scientific Translations (Jerusalem). OTS 60-21820. [xxi] + 641 p., 299 figs. 1962. Russian original published by Glavnauka NKVT Gos. Izdat. Biol. Med. Lit. (Moscow-Leningrad) in 1935. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $6.75.] WR 127: 14

A continuation of Volume II in which the remainder of the Mustelidae (Mustela, Vormela and Gulo) and the Felidae among the Fissipedia are treated. With the Pinnipeds (Odobaenidae, Otariidae and Phocidae) 72 spp. and sspp. are discussed. Addenda to previous volumes are also included.

Ognev, S. I. MAMMALS OF THE USSR AND ADJACENT COUNTRIES. MAMMALS OF EASTERN EUROPE AND NORTHERN ASIA. VOL. IV. RODENTS. Published for the National Science Foundation and the Smithsonian Institution by the Israel Program for Scientific Translations (Jerusalem). TT 65-50016. x + 429 p. + 61 p. of tables, 220 figs. 1966. Russian original published by Izdat. Akad. Nauk SSSR (Moscow-Leningrad) in 1940. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $8.04.] WR 127: 14

This is the first of the volumes treating the rodents of the USSR. Included are 73 forms of the following genera: Ochotona, Pteromys, Sciurus, Spermophilopsis, Eutamias, and the lagomorph genera Lepus, Allolagus and Oryctolagus.

Ognev, S. I. MAMMALS OF USSR AND ADJACENT COUNTRIES. MAMMALS OF EASTERN EUROPE AND NORTHERN ASIA. VOL. V. RODENTS. Published for the National Science Foundation and the Smithsonian Institution by the Israel Program for Scientific Translations (Jerusalem). OTS 61-31219. [vii] + 662 p., 340 figs. 1963. Russian original published by Izdat. Akad. Nauk SSSR (Moscow-Leningrad) in 1947. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $6.75.] WR 127: 15

In this continuation of the discussion of USSR rodents 33 representatives of Citellus, Marmota, Castor, Glis, Eliomys, Dryomys, Muscardinus, Myomimus, Selvinia, Spalax, and Myospalax are treated.

Ognev, S. I. MAMMALS OF USSR AND ADJACENT COUNTRIES. MAMMALS OF EASTERN EUROPE AND NORTHERN ASIA. VOL. VI. RODENTS. Published for the National Science Foundation and the Smithsonian Institution by the Israel Program for Scientific Translations (Jerusalem). OTS 63-11058. [vi] + 508 p., 260 figs., 12 maps. 1963. Russian original published by Izdat. Akad. Nauk SSSR (Moscow-Leningrad) in 1948. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $5.25.] WR 127: 15

This volume is a continuation of the description of USSR rodents and includes "a monograph on Sicista and birch mice and jerboas, a general review of murid rodents, and the first part of the description of the voles and lemmings." The following genera are included: Sicista, Alactaga, Alactagulus, Pygerethmus, Dipus, Scirtopoda, Jaculus, Paradipus, Lemmus, Dicrostonyx, Myopus, Ondatra, and Prometheomys. Fifty-five species are treated.

Ognev, S. I. MAMMALS OF USSR AND ADJACENT COUNTRIES. MAMMALS OF EASTERN EUROPE AND NORTHERN ASIA. VOL. VII. RODENTS. Published for the National Science Foundation and the Smithsonian Institution by the Israel Program for Scientific Translations (Jerusalem). OTS 63-11059. [vii] + 626 p., 347 figs., 15 maps. 1964. Russian original published by Izdat. Akad. Nauk SSSR (Moscow-Leningrad) in 1950. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $6.50.] WR 127: 15

The vole subfamily [Microtinae] is dealt with in this volume and 135 forms are treated of the following genera: Clethrionomys, Microtus, Alticola, Lagurus, Arvicola, and Elliobius. Phaiomys, Chilotus, Pitymys, Chionomys, and Stenocranius are treated as subgenera of Microtus and assigned to that genus.

Whitaker, John O., Jr. HABITAT AND REPRODUCTION OF SOME OF THE SMALL MAMMALS OF VIGO COUNTY, INDIANA, WITH A LIST OF MAMMALS KNOWN TO OCCUR THERE. Occas. Paps. C. C. Adams Center Ecol. Studies no. 16. p. 1-24, 1 fig. 20 June 1967. WR 127: 15

[Ind. State Univ., Terre Haute.] A total of 42 spp. was taken during this 3-yr. study.

MAMMALS--POPULATIONS, HOME RANGES, COMMUNITIES

Batcheler, C. L., J. H. Darwin, and L. T. Pracy. ESTIMATION OF OPOSSUM (TRICHOSURUS VULPECULA) POPULATIONS AND RESULTS OF POISON TRIALS FROM TRAPPING DATA. New Zealand J. Sci. 10(1): 97-114, 4 figs. Mar. 1967. WR 127: 15

[New Zealand Forest Serv., Wellington.] Summary: A logarithmic relationship between an index of abundance (the proportion of traps that catch animals) and relative density is developed. Using this, a technique for estimating absolute density of opossums is described which is based on comparison of catch with that obtained in an area for which an estimate of absolute density had been obtained by trapping to extermination. This model indicates an average population density of 5.7 per acre in the six poison trial areas, and

suggests extreme density in some New Zealand habitats of over 12 per acre. The model was used to estimate the effect of six 1080-poison and pollard-bait control trials in which traps were used to obtain measures of density. A kill of 98 ± 4% was calculated for one trial area, and in the others kills ranged down to 50 ± 16%. Ecological inference of the trial results is considered on the strength of correlations between estimated density, estimated percent kill, numbers surviving, and body weight of the animals. An important suggestion is that percent kill is related to changes of behaviour and of physical condition, both these being functions of density.

Gidayatov, Yu. Kh. [SEASONAL POPULATION SIZE OF THE JACKAL AND THE FOX IN THE AREA OF THE KYZYL-AGACH STATE PRESERVE.] Izvest. Akad. Nauk Azerbaidzh. SSR Ser. Biol. Nauk 3: 74-81, illus. 1965. [From Biol. Abstr. 48(5), 1967. In Russian.] WR 127: 16

Hagmeier, Edwin M. A NUMERICAL ANALYSIS OF THE DISTRIBUTIONAL PATTERNS OF NORTH AMERICAN MAMMALS. II. RE-EVALUATION OF THE PROVINCES. Syst. Zool. 15(4): 279-299, illus. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 16
[Univ. Victoria, Victoria, British Columbia, Canada.]

Pulliainen, Erkki. SUOMESSA VUONNA 1965 KAADETUT KARHUT JA ILVEKSET. [THE NUMBERS OF BEAR (URSUS ARCTOS) AND LYNX (LYNX LYNX) KILLED IN FINLAND IN 1965.] Suomen Riista 19: 165-167. 1966. In Finnish with English summ. WR 127: 16
Seventy-five bear and 20 lynx were killed.

MAMMALS--PARASITES & DISEASES

Corbet, G. B. RECORDS OF MAMMALS AND THEIR ECTOPARASITES FROM FOUR SCOTTISH ISLANDS. Glasgow Nat. 18: 426-434. 1966. [From J. Animal Ecol. 36(2), 1967.] WR 127: 16
Data on mammals collected and observed on Lismore, Shuna, Eilean Gamhna and the Crowlin Islands, with a tabular list of fleas, lice, mites and a beetle found on the animals.

Fahmy, M. A. M. STUDIES ON SOME HELMINTH PARASITES OF SMALL MAMMALS (CARNIVORES AND RODENTS). Z. Parasitenk 25(2): 135-147, illus. 1964. [From Biol. Abstr. 48(1), 1967. In English with German summ.] WR 127: 16
[Fac. Parasitol., Vet. Med., Giza, United Arab Republic.]

Kinsella, John M., and Donald L. Pattie. ECTOPARASITES OF SMALL MAMMALS OF THE ALPINE BEARTOOTH PLATEAU, WYOMING. Canadian J. Zool. 45(2): 233-235. Mar. 1967. WR 127: 16
[Univ. Mont., Missoula.]

Schaal, E., and H. Ernst. ÜBER WILDKRANKHEITEN IM REGIERUNGSBEZIRK ARNSBERG. [ON DISEASES OF WILD ANIMALS IN THE ARNSBERG ADMINISTRATIVE AREA.] Z. Jagdwissenschaft 10(3): 116-121, 1 fig. Sept. 1964. [In German with English and French summ.] WR 127: 16
Summary: Diseases and causes of death of wild animals are the subject of this report, as they could be recognized in a material of investigation of 2502 carcasses or parts of carcasses of animals within the governmental district of Arnsberg during a five years period. Especially remarkable is the high degree of infection by rabies among red foxes. In case of 75% of all foxes examined the infection could be proved microscopically, histologically, or by means of animal experiments. In case of roe deer about 40% of deaths were caused by parasitic diseases or diseases of the intestines. Among field hares and rabbits infections (Pasteurellosis, Pseudotuberculosis, Staphylococcosis, Myxamatosis) and Coccidiosis were most frequent. As a special case the round cellular sarcom in the lung of a red deer is mentioned.

Aellen, V. NOTES SUR TADARIDA TENIOTIS (RAF.) (MAMMALIA, CHIROPTERA): I. SYSTEMATIQUE, PALEONTOLOGIE ET PEUPLEMENT, REPARTITION GEOGRAPHIQUE. [NOTES ON TADARIDA TENIOTIS (RAF.) (MAMMALIA, CHIROPTERA): I. SYSTEMATICS, PALEONTOLOGY, BREEDING, AND GEOGRAPHIC DISTRIBUTION.] Rev. Suisse Zool. 73(1): 119-160, illus. 1966. [From Biol. Abstr. 48(7), 1967. In French with English and German summ.] WR 127: 17
[Mus. Hist. Nat., Geneva, Switzerland.]

Averin, Yu. V., and M. N. Lozan. [MOLDAVIAN BATS. (PRELIMINARY OBSERVATIONS).] In: (Problems of the ecology and of the economic importance of Moldavian birds and mammals.) Kartya Moldovenyaske (Kishinev). p. 25-33. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 11490. Transl. of Russian abstr.] WR 127: 17
An annotated list of 18 spp. of bats.

Babaev, Kh. [DISTRIBUTION AND ABUNDANCE OF BATS IN TURKMENIA.] Izv. Akad. Nauk Turkm. SSR Ser. Biol. 4: 51-55. 1965. [From Biol. Abstr. 48(7), 1967. In Russian.] WR 127: 17

Davis, Wayne H., and Ola B. Reite. RESPONSES OF BATS FROM TEMPERATE REGIONS TO CHANGES IN AMBIENT TEMPERATURE. Biol. Bull. 132(3): 320-328, 3 figs. June 1967. WR 127: 17
[Univ. Ky., Lexington.] Summary: Responses to upward and downward changes in ambient temperature from 5° C. were studied in dormant bats of the species E. fuscus, P. subflavus, M. sodalis, M. lucifugus and L. borealis. Rectal temperatures and heart rates were recorded. Except for L. borealis which did not arouse until ambient temperature reached about 20° C., all species responded by arousal from dormancy when the temperature was increased to 15° C. The effects of decreasing ambient temperature varied considerably among species. E. fuscus invariably aroused from dormancy. L. borealis never aroused but showed a thermoregulatory response by increasing its metabolism to compensate for the increase in heat loss. The responses of the other species depended upon the abruptness of the temperature change. Abrupt lowering of ambient temperature tended to induce arousal in M. lucifugus and M. sodalis, whereas these species responded similarly to L. borealis when exposed to gradually decreasing temperature. P. subflavus usually aroused in response to a gradual decrease in ambient temperature, but seemed unable to arouse in response to abrupt lowering of temperature. Bats of the species L. borealis, M. lucifugus and M. sodalis supercooled to -5° C. showed cessation of breathing, but slow heart beats continued for several hours. Passive rewarming was necessary for survival. Many of the known differences in the ecology of the studied species of bats are reflected as differences in their response to changes in ambient temperature in the laboratory.

Dihale, Giovanni. STUDI SUI CHIROTTERI ITALIANI: V. EXPERIMENTI DI RITORNO AL LUOGO DI CATTURA E RICATTURE ESTERNE DI RHINOLOPHUS FERRUM EQUINUM SCHREBER INANELLATI IN LIGURIA. [STUDIES ON ITALIAN CHIROPTERA: V. EXPERIMENTS ON RETURN TO PLACE OF CAPTURE AND EXTERNAL RECOVERY OF RHINOLOPHUS FERRUM EQUINUM, BANDED IN LIGURIA.] Atti Soc. Ital. Nat. Mus. Civ. Storia Nat. Milano 105(2): 147-157. 1966. [From Biol. Abstr. 48(7), 1967. In Italian with English summ.] WR 127: 17
[Univ. Roma, Rome, Italy.]

Dwyer, P. D. THE POPULATION PATTERN OF MINIOPTERUS SCHREIBERSII (CHIROPTERA) IN NORTH-EASTERN NEW SOUTH WALES. Australian J. Zool. 14(6): 1073-1137, illus. 1966. [From Biol. Abstr. 48(9), 1967.] WR 127: 17
[Univ. Queensland, St. Lucia, Brisbane, Australia.]

Eisenberg, John F., and Edwin Gould. THE BEHAVIOR OF SOLENODON PARADOXUS IN CAPTIVITY WITH COMMENTS ON THE BEHAVIOR OF OTHER INSECTIVORA. Zoologica 51 (4): 49-58 + 3 figs. on 2 pls. May 1966. WR 127: 18

[Univ. Md., College Park.] Summary: Observations on captive solenodons were undertaken in 1962 and 1964 but during the winter and spring of 1965 two adult and two juvenile specimens of Solenodon paradoxus were studied intensively for three months. A series of standard tests were run in order to study their maintenance and social behavior. With the exception of mating behavior and early parental care, the behavior patterns of Solenodon paradoxus were described in detail. Solenodon exhibits a rather specialized set of foraging patterns with an overall simplification of its behavioral repertoire. Its vocalization patterns resemble those of the Soricidae and Tupaiadae. Solenodon produces high-pitched vocal pulses similar to the echolocating sounds employed by Sorex. The simplified behavioral repertoire of Solenodon may well be the result of specialization rather than representative of a primitive mammalian condition.

Glass, Bryan P. SOME NOTES ON REPRODUCTION IN THE RED BAT, LASIURUS BOREALIS. Proc. Okla. Acad. Sci. 46: 40-41. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 18

[Okla. State Univ., Stillwater.] One instance is recorded of an apparent attempt at midair copulation, and one observation of a female giving birth while in flight.

Jones, J. Knox, Jr., Eugene D. Fleharty, and Patrick B. Dunnigan. THE DISTRIBUTIONAL STATUS OF BATS IN KANSAS. Univ. Kans. Museum Nat. Hist. Misc. Publ. no. 46. p. 1-33, 11 figs. 1 May 1967. WR 127: 18

Annotated list of 15 spp. of Kansas bats.

Kristoffersson, Rolf, Antti Soivio, and Paavo Suomalainen. THE DISTRIBUTION OF THE HEDGEHOG (ERINACEUS EUROPAEUS L.) IN FINLAND IN 1964-1965. Ann. Acad. Sci. Fenn. Ser. A IV Biol. 102: 5-12. 1966. [From Biol. Abstr. 48(4), 1967.] WR 127: 18

[Univ. Helsinki, Helsinki, Finland.]

Michielsen, Nora Croin. INTRASPECIFIC AND INTERSPECIFIC COMPETITION IN THE SHREWS SOREX ARANEUS L. AND S. MINUTUS L. Arch. Neer. Zool. 17(1): 73-174, illus. 1966. [From Biol. Abstr. 48(11), 1967.] WR 127: 18

[Univ. Leiden, Leiden, Netherlands.]

Mitchell, G. Clay. POPULATION STUDY OF THE FUNNEL-EARED BAT (NATALUS STRAMINEUS) IN SONORA. Southwestern Nat. 12(2): 172-175. 4 Aug. 1967. WR 127: 18

[Univ. Ariz., Tucson.] Abstract: Population and banding studies were conducted on a population of Natalus stramineus at Mina Armolillo, an abandoned test mine 5 mi. NNW Alamos, 2 mi. S Piedras Verdes, Sonora, Mexico, during 1964 and early 1965. From these studies it was found that this bat does not have a mass migration but does have some local migration in search of a more favorable day-shelter. Members of this species require a day-shelter which maintains a constantly high relative humidity and a drop in relative humidity corresponds with a drop in the population.

O'Farrell, Michael J., W. Glen Bradley, and Gary W. Jones. FALL AND WINTER BAT ACTIVITY AT A DESERT SPRING IN SOUTHERN NEVADA. Southwestern Nat. 12(2): 163-171, 2 figs. 4 Aug. 1967. WR 127: 18

[Nevada Southern Univ., Las Vegas.] Abstract: Bats were captured in a mist net at White Spot Spring, Desert Game Range, Clark County, Nevada during the months September through May for a total of 21 mist net nights. Time of capture, air temperature, and wind conditions are given for each species. Two species, Pipistrellus hesperus and Myotis californicus were active throughout the fall and winter. Pipistrellus was netted at air temperatures ranging from 1° to 31° C. Myotis californicus was netted at air temperatures of 2° to 27° C.

Approximately 48% of the Myotis were taken at air temperatures between 2° and 6° C. and approximately 11% of the Pipistrellus were netted at air temperatures of 5° C. or below. A third species Antrozous pallidus was netted in low numbers at air temperatures as low as 2° C.

Palasthy, Jozef, and Jiri Gaisler. K OTAZCE TAK ZVANYCH "INVAZI" A ZIMNICH KOLONII NETOPYRA HVIZDAVEHO (PIPISTRELLUS PIPISTRELLUS SCHREBER, 1774). [THE QUESTION OF THE ALLEGED INVASIONS AND OF THE WINTER COLONIES OF PIPISTRELLUS PIPISTRELLUS SCHREBER, 1774.] Zool. Listy 14(1): 9-14. 1965. [From Biol. Abstr. 48(7), 1967. In Czech with German summ.] WR 127: 19
[Mus. Slov. Repub., Presov, Czechoslovakia.]

Paradiso, John L., and Arthur M. Greenhall. LONGEVITY RECORDS FOR AMERICAN BATS. Am. Midland Nat. 78(1): 251. July 1967. WR 127: 19
[US Natl. Museum, Washington, D.C.] Abstract: Longevity records are given for 14 species of American bats, belonging to six genera. Records are based on data from the recovery of banded bats, as recorded in the files of the U.S. Fish and Wildlife Service.

Quilliam, T. A., editor. THE MOLE: ITS ADAPTATION TO AN UNDERGROUND ENVIRONMENT. (PROCEEDINGS OF A CIBA FOUNDATION GUEST MEETING, JANUARY 5TH AND 6TH, 1966.) J. Zool. (London) 149(1): 31-114. May 1966. WR 127: 19
Contents: Mole activity in woodlands, fens and other habitats, K. Mellanby; Catching and keeping live moles, A. J. B. Rudge; The mole as a surface dweller, Patrick Morris; The soil fauna as a food source for moles, F. Raw; The anatomy of mole locomotion, D. W. Yalden; Notes on the relationship between the burrowing capacity, size and shoulder anatomy of some eastern Asiatic moles, Earl of Cranbrook; The pituitary gland of the mole in relation to that of other insectivores, R. L. Holmes; The mole's sensory apparatus, T. A. Quilliam; Electron microscopic observations of the olfactory mucosa of the mole, P. Graziadei; The central visual pathways and their functional significance in the mole (Talpa europaea), R. D. Lund and Jennifer S. Lund; Perception underground: Review of physical aspects and measurements, B. H. Crawford; Mole footprints and heaps, P. Morris; Techniques and apparatus used in mole research, A. J. B. Rudge; Some observations on the ecology of the mole, A. Armsby, T. A. Quilliam, and H. Soehnle; and Some aspects of mole behaviour, A. Aldrich and T. A. Quilliam.

Sluiter, J. W., and P. F. van Heerdt. SEASONAL HABITS OF THE NOCTULE BAT (NYCTALUS NOCTULA). Arch. Neer. Zool. 16(4): 423-439, illus. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 19
[Univ. Utrecht, Utrecht, Netherlands.]

Stebbings, R. E. BATS UNDER STRESS. Stud. Speleol. 1(4): 168-173, illus. 1966. [From Biol. Abstr. 48(9), 1967.] WR 127: 19
[Furzebrook Res. Sta., Wareham, Dorset, England.]

Stogov, I. I., and E. P. Bondar'. [A SURVEY OF CROCIDURA IN SOUTH TURKMENIA AND TAJIKISTAN.] Zool. Zhur. 45(3): 414-420. 1966. [From Biol. Abstr. 48(1), 1967. In Russian with English summ.] WR 127: 19

Tamsitt, J. R., and Dario Valdivieso. REPRODUCTION OF THE FEMALE BIG FRUIT-EATING BAT, ARTIBEUS LITURATUS PALMARUM, IN COLOMBIA. Caribbean J. Sci. 5 (3-4): 157-166, 4 figs. Sept.-Dec. 1965. In English with Spanish summ. WR 127: 19
[School Tropical Medicine, San Juan, Puerto Rico.] Abstract: Reproductive activity of the female big fruit-eating bat, Artibeus lituratus palmarum, was investigated in west central Colombia for a 19 month period during 1960-1963. The young are born at any time of the year, and parturition takes place in the normal resting position with the head downward. The litter size is one, and there is only one embryo or placental site in a uterus. Embryo resorption was not seen, and the number of young is limited by reducing the number of ova shed.

At birth the young is covered with fine gray hair, the eyes are open, recurved teeth are established, and movements are directed. Volants individual consist of mature and immature females, and ovarian development and the attainment of adult pelage or body size are not absolutely correlated, although a minimum of 46 g has to be reached before reproduction can occur. In equatorial Colombia climatic conditions tend to be uniform throughout the year, temperatures fluctuate little, and there is a continuous food supply. Continuous breeding in A. lituratus, in which successive breeding periods of individuals are contiguous, allows for the exploitation of an environment in which great frequency in breeding is practicable.

RABBITS & PIKAS

Bettman, H. ZUWACHSQUOTE DES FELDHASEN. [AGE RATIOS OF THE HARE.] Z. Jagwissenschaft 10(3): 122-123. Sept. 1964. In German. WR 127: 20

Bigham, Sam R. BREEDING SEASON OF THE COTTONTAIL RABBIT IN NORTH-CENTRAL OKLAHOMA. Proc. Okla. Acad. Sci. 46: 217-219, 1 fig. 1966. WR 127: 20

[Okla. Coop. Wildl. Res. Unit., Stillwater.] Conclusions: The breeding season of the cottontail rabbit in north-central Oklahoma during the period of study extended from mid-February to early September. The length of the breeding season appeared to be dependent on the condition of the females rather than the males. There was only one month, October, in which all males lacked spermatozoa.

Hoffmeister, Donald F., and Earl G. Zimmerman. GROWTH OF THE SKULL IN THE COTTONTAIL (SYLVILAGUS FLORIDANUS) AND ITS APPLICATION TO AGE DETERMINATION. Am. Midland Nat. 78(1): 198-206, 2 figs. July 1967. WR 127: 20

[Univ. Ill., Urbana.] Abstract: Skulls of 125 cottontails, Sylvilagus floridanus, of ages determined from lens-weight, were available from Iroquois and Champaign counties, east-central Illinois. An attempt was made to find features of the skull that might be useful in placing these rabbits into age-groups. Later, the lens-weight was correlated with these groups. In very young animals, less than 21 days old, the teeth are not fully erupted; group 1 animals, 21-92 days lens-age, have no fusion anywhere along the exoccipital-supraoccipital suture; group 2 animals, 93-105 days lens-age, have the suture clearly visible, but there is some fusion along it, especially near one end; in group 3 animals, 106-170 days lens-age, the suture is fused along its entire length but not obliterated, although it may be seen in some cases only with a lens or microscope; group 4 animals, more than 170 days lens-age, have the suture no longer discernible. Growth of the skull and some of its cranial elements from age 5 days (approximate) to and beyond 260 days are graphed. Using the age-groups and the graphs, the age of the skull can be ascertained with fair accuracy. Ninety percent of adult size is reached by 125 days of age, 96.5% by 170 days. The most rapid growth occurs during the first 60 days. Although there is no actual decrease in size in any part of the skull measured, there is a relative decrease in zygomatic breadth, breadth of braincase, postorbital breadth, and parietal breadth.

Nová Ková, Eliska, and Rudolf Hanzil. INFLUENCE DES CONDITIONS METEOROLOGIQUES DE L'HIVER ET DU PRINTEMPS SUR L'ÉTAT PHYSIQUE DES LIÈVRES EN AUTOMNE. [INFLUENCE OF WEATHER CONDITIONS IN WINTER AND SPRING ON THE PHYSICAL STATE OF HARES IN AUTUMN.] Schweiz. Z. Forstwesen 117(2): 118-126, illus. 1966. [From Biol. Abstr. 48(5), 1967. In French.] WR 127: 20

[Inst. Aménagement & Conserv., Prague, Czechoslovakia.]

Parker, B. S., and H. G. Bults. PRELIMINARY SURVEY OF RABBIT DISTRIBUTION IN THE KOSCIUSKO STATE PARK, NEW SOUTH WALES, 1964-65. CSIRO Div. Wildl. Res. Tech. Pap. no. 12. 8 p. 1967. WR 127: 21

[CSIRO, Canberra, Australia.] Summary: A survey of rabbit distribution in the Kosciusko State Park and adjacent areas of New South Wales in 1964-65 has shown that rabbits are mainly confined to the open high plains areas between 3000 and 5000 ft. A total of 128 grassland areas were visited, covering approximately 175 sq miles in and adjoining the Park. Of these, 6 (approximately 26 sq miles) had large numbers of rabbits on them and 41 (approximately 79 sq miles) were considered capable of carrying large numbers. The survey suggests that rabbits are no threat to the high catchment areas. Rabbit control in the Park will ultimately depend on the intelligent use of poison.

Schmidt-Nielsen, Knut, T. J. Dawson, H. T. Hammel, David Hinds, and Donald C. Jackson. THE JACK RABBIT: A STUDY IN ITS DESERT SURVIVAL. Hvalbadets Skr. 48: 125-142, illus. 1965. [From Biol. Abstr. 48(4), 1967.] WR 127: 21

[Duke Univ., Durham, N.C.]

Stodart, Eleanor, and K. Myers. THE EFFECTS OF DIFFERENT FOODS ON CONFINED POPULATIONS OF WILD RABBITS, ORYCTOLAGUS CUNICULUS (L.). CSIRO Wildl. Res. 11 (2): 111-124, 7 figs. Dec. 1966. WR 127: 21

[CSIRO, Canberra, Australia.] Summary: Six confined populations of wild rabbits, Oryctolagus cuniculus (L.) were fed combinations of pasture, supplementary freshly cut green herbage, oaten hay, and grain. The length of the breeding season, success in reproduction, growth rates, and survival were measured. When excess of food was present, high growth rates occurred in young rabbits. When green food was present, and especially if oat grain was present in excess, a high reproductive rate occurred and the incidence of disease in young rabbits was apparently reduced. The absence of green food greatly reduced the numbers and sizes of litters produced.

Walhovd, Helge. ALDERSBESTEMMELSE AV HARE (LEPUS TIMIDUS L.) MED DATA OM ALDERS-OG KJONNSFORDELING, VEKST OG VEKT. [AGE CRITERIA OF THE MOUNTAIN HARE (LEPUS TIMIDUS L.) WITH ANALYSES OF AGE AND SEX RATIOS, BODY WEIGHTS AND GROWTH IN SOME NORWEGIAN POPULATIONS.] Meddelelser Fra Statens Viltundersokelser 2 (22): 3-57, illus. 1965. [From Biol. Abstr. 48(3), 1967. In Norwegian with English summ.] WR 127: 21

RODENTS--MISCELLANEOUS

Aho, Jorma, and Olavi Kalela. THE SPRING MIGRATION OF 1961 IN THE NORWEGIAN LEMMING, LEMMUS LEMMUS (L.) AT KILPISJARVI, FINNISH LAPLAND. Ann. Zool. Fennici 3(1): 53-65, illus. 1966. [From Biol. Abstr. 48(2), 1967.] WR 127: 21

[Univ. Helsinki, Helsinki, Finland.]

Batten, Christine A., and R. J. Berry. PRENATAL MORTALITY IN WILD-CAUGHT HOUSE MICE. J. Animal Ecol. 36(2): 453-463, 2 figs. June 1967. WR 127: 21

[Royal Free Hospital School Med., London, England.]

Borisenko, V. A. [ECOLOGY OF THE NORTHERN REDBACKED VOLE (CLETHRIONOMYS RUTILUS) IN NORTHERN KAZAKHSTAN.] Izvest. Akad. Nauk Kaz. SSR Ser. Biol. 2: 62-68, illus. 1966. [From Biol. Abstr. 48(10), 1967. In Russian.] WR 127: 21

Davydov, G. S. [RODENTS OF NORTHERN TADZHIKISTAN.] Akad. Nauk Tadzhikskoi SSR (Dushanbe). 272 p., illus. 1964. Price 1 ruble 50 kopecks. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 6I141K. Transl. of Russian abstr.] WR 127: 21

De Carvalho, Cory T. BIONOMIA DE PEQUENOS MAMÍFEROS EM BORACÉIA. [BIONOMICS OF SMALL MAMMALS IN BORACEIA.] Rev. Biol. Trop. 13(2): 239-257. 1965. [From Biol. Abstr. 48(3), 1967. In Portuguese with English and Spanish summ.] WR 127: 22
[Secretary Agr., São Paulo, Brazil.] "Rodentia."

Dingman, Ross Evan. VARIATION IN SELECTED POPULATIONS OF POCKET GOPHERS (THOMOMYS BOTTAE) OF THE LOWER COLORADO RIVER. Ph.D. thesis, Univ. Ariz. 134 p. 1966. [From Dissertation Abstr. 27(10B), 1967.] WR 127: 22

Fisler, George F. AN EXPERIMENTAL ANALYSIS OF ORIENTATION TO THE HOMESITE IN TWO RODENT SPECIES. Canadian J. Zool. 45(3): 261-268. May 1967. WR 127: 22
[San Fernando Valley State Coll., Northridge, Calif.] Abstract: An experiment to determine the effects of celestial bodies and a view of the horizon on the ability of two rodents, Microtus californicus and Reithrodontomys megalotis, to orient toward the homesite was conducted in a grassland in central California. Mice were allowed to select an initial direction within a circle 11 ft in diameter on a plywood platform set up 425 or fewer feet from their home area. Under several sky conditions at night, or with a full view of the sun during the day, no evidence for orientation to the homesite was found. Individuals of R. megalotis with known homing success performed no better than did mice which failed to home. Orientation, if it occurred at all, did not occur in the first 10 minutes after release of the animals.

Garbuzov, V. K. [DISTRIBUTION OF SETTLEMENTS AND DISPERSAL OF THE GERBIL RHOMBOMYS OPIMUS LICHT. IN THE BOLSHIYE BARSUKI SANDS.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 70(5): 16-23. 1965. [From Biol. Abstr. 48(8), 1967. In Russian with English summ.] WR 127: 22

Gladkina, T. S. [DISTRIBUTION OF SOME RODENTS IN NORTH KAZAKHSTAN.] Zool. Zhur. 45(6): 947-949. 1966. [From Biol. Abstr. 48(7), 1967. In Russian with English summ.] WR 127: 22
[All-Union Inst. Plant Protec., Leningrad, USSR.]

Haberey, P., C. Dantlo, and C. Kayser. MÉTHODE D'EXPLORATION DU COMPORTEMENT ALIMENTAIRE D'UN HIBERNANT, LE LEROT ELIOMYS QUERCINUS. [METHOD OF EXPLORATION OF FEEDING BEHAVIOR OF A HIBERNATING ANIMAL, THE DORMOUSE, ELIOMYS QUERCINUS.] Comp. Rend. Seances Soc. Biol. (Paris) 160(3): 655-659, illus. 1966. [From Biol. Abstr. 48(11), 1967. In French.] WR 127: 22
[Fac. Med., Strasbourg, France.]

Holisova, Vera. [THE FOOD OF PITYMYS SUBTERRANEUS AND R. TATRICUS (RODENTIA, MICROTIDAE) IN THE MOUNTAIN ZONE OF THE SORBETO-PICEETUM.] Zool. Listy 14(1): 15-28, illus. 1965. [From Biol. Abstr. 48(7), 1967. With English summ.] WR 127: 22
[Inst. Vert. Zool., Czech. Acad. Sci., Brno, Czechoslovakia.]

Holisova, Vera. [THE FOOD OF THE WATER VOLE, ARVICOLA TERRESTRIS, IN THE AGRARIAN ENVIRONMENT OF SOUTH MORAVIA.] Zool. Listy 14(3): 209-218, illus. 1965. [From Biol. Abstr. 48(6), 1967. With English summ.] WR 127: 22
[Inst. Vert. Zool., Czech. Acad. Sci., Brno, Czechoslovakia.]

Holisova, Vera. FOOD OF AN OVERCROWDED POPULATION OF THE BANK VOLE, CLETHRIONOMYS GLAREOLUS SCHREB., IN A LOWLAND FOREST. Zool. Listy 15(3): 207-224, illus. 1966. [From Biol. Abstr. 48(7), 1967. In English with Czech summ.] WR 127: 22
[Inst. Vert. Zool., Czech. Acad. Sci., Brno, Czechoslovakia.]

Isart, Juan. ALGUNOS DATOS ACERCA DE UN "TOPILLO" QUE ATACA A LA REMOLACHA: PITYMYS IBERICUS (GERBE). [ON A GROUND RODENT PEST OF SUGAR BEETS: PITYMYS IBERICUS (GERBE).] Publicaciones Inst. Biol. Apl. 40: 59-66, illus. 1966. [From Biol. Abstr. 48(6), 1967. In Spanish with French and English summ.] WR 127: 23
[Zool. Suelo, Consejo Super. Invest. Cient., Madrid, Spain.]

Kasatkin, V. I. [CHANGES AND CHARACTERISTICS OF THE FORMATION OF THE RANGE OF THE WATER VOLE (ARVICOLA TERRESTRIS) IN THE SEMI-DESERT IN THE SOUTHEASTERN PART OF THE TRANSCAUCASUS.] Zool. Zhur. 44(12): 1879-1880. 1965. [From Biol. Abstr. 48(7), 1967. In Russian with English summ.] WR 127: 23
[Astrakhan State Nat. Forest, Astrakhan, USSR.]

Kinsella, John M. HELMINTHS OF MICROTINAE IN WESTERN MONTANA. Canadian J. Zool. 45(3): 269-274. May 1967. WR 127: 23
[Univ. Mont., Missoula.] Abstract: Seventeen species of helminths were found in 134 voles of 5 species (Phenacomys intermedius, Clethrionomys gapperi, Microtus longicaudus, Microtus montanus, Microtus pennsylvanicus) collected in 1964 and 1965 in western Montana. Ten new records for North America and 26 new records for Montana were recorded. Seasonal patterns of infection were noted in Quinqueserialis quinqueserialis and Paranoplocephala infrequens. The taxonomy of the nematode Heligmosomum dubius (Baylis 1926) Tenora, 1958 was discussed. The first record of Aspiculuris tetraptera in microtine rodents and the second record of Pelodera sp. in the orbits of North American rodents were reported. A high frequency of mixed infections of the digestive tract was found, usually accompanied by a pronounced stratification of the helminths within the tract.

Lozan, M. N. [THE WATER RAT AND THE MUSKRAT OF MOLDAVIA.] In: (Problems of the ecology and economic importance of Moldavian birds and mammals.) Kartya Moldovenyaske (Kishinev). p. 10-24. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 1I543. Transl. of Russian abstr.] WR 127: 23

Mokrievich, N. A. [ECOLOGICO-PHYSIOLOGICAL FEATURES OF COMMON VOLES (MICROTUS ARVALIS) AND HOUSE MICE (MUS MUSCULUS) IN VOLGA-URAL SANDS.] Zool. Zhur. 45(3): 447-451, illus. 1966. [From Biol. Abstr. 48(1), 1967. In Russian with English summ.] WR 127: 23
[All-Union Res. Anti-Plague Inst. Microbiol., Saratov, USSR.]

Myrberget, Svein. VEKSLINGER I BESTANDSSTORRELSEN HOS NORSKE SMAGNAGERE I ARENE 1946-60. [CHANGES IN SMALL RODENT POPULATION IN LEVELS IN NORWAY 1946-60.] Meddelelser Fra Statens Viltundersokelser 2(19): 5-54, illus. 1965. [From Biol. Abstr. 48(4), 1967. In Norwegian with English summ.] WR 127: 23

Naniev, V. I. [NEW HABITATS OF THE BIRCH MOUSE (SICISTINAE) IN THE EASTERN PART OF THE CENTRAL CAUCASUS.] Uch. Zap. Sev. Osetinskogo Gos. Pedagog. Inst. 26(2): 105. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 8I248. Transl. of Russian abstr.] WR 127: 23

Neranov, I. M., G. P. Usachev, and E. P. Yakovlev. [DISTRIBUTION AND ECOLOGY OF SEVERTZOV'S JERBOA (ALACTAGA SEVERTZOVI) IN SOUTHWESTERN TADZHIKISTAN.] Izv. Akad. Nauk Tadzh. SSR Otdel Biol. Nauk 2(16): 105-106. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 10I274. Transl. of Russian abstr.] WR 127: 23

Nikolaev, A. S., and O. A. Chertova. [EFFECT OF WEATHER CONDITIONS ON THE ACTIVITY OF WATER RATS.] In: (The animal world of Baraba.) Sibirsk. Otd. Akad. Nauk SSSR (Novosibirsk). p. 70-72. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., [1966], no. 3I558. Transl. of Russian abstr.] WR 127: 23

Panteleev, P. A. [THE SYSTEM OF SPECIFIC POPULATION OF RODENTS.] Zhur. Obshch. Biol. 27(3): 313-323. 1966. [From Biol. Abstr. 48(10), 1967. In Russian.] WR 127: 24

[Inst. Biol., Acad. Sci., USSR, Novosibirsk, USSR.] A review with 117 references.

Pérard, André. ÉTABLISSEMENT D'UN ACTOGRAPHE POUR LÉROT. [CONSTRUCTION OF AN ACTOGRAPH FOR ELIOMYS QUERCINUS.] Vie & Milieu 17(2-C): 835-842, 2 figs. 1966. In French with German and French summ. WR 127: 24

[Lab. Psychophysiol., 54-Nancy, France.] Summary: In order to study the influence of the classic biological factors (light, temperature, humidity) on the behaviour of Eliomys quercinus we constructed a simple, inexpensive actograph capable of registering the rhythm of activity of animals over a number of months. This plexiglass apparatus is made of two walking floors. The progress of the animal releases, by direct pressure, contacts situated outside the cage. A current of 6 volts is received by electromagnets with registering pointers. Counters add up the number of impulses. The results are now in process of analysis. This apparatus can be adapted, without great modification, for any small mammal.

Pérard, André. QUELQUES ÉLÉMENTS DE LA BIOLOGIE DU LÉROT ELIOMYS QUERCINUS EN CAPTIVITÉ. [SOME ELEMENTS OF THE BIOLOGY OF ELIOMYS QUERCINUS IN CAPTIVITY.] Vie & Milieu 17(2-C): 829-834. 1966. In French with English and German summ. WR 127: 24

[Lab. Psychophysiol., Faculté des Sciences, 54-Nancy, France.] The influence of light on the demarcation of territory is demonstrated. Eliomys shuns open or bright areas even under crepuscular conditions.

Ruffer, David G. GROOMING IN THE NORTHERN GRASSHOPPER MOUSE. Southwestern Nat. 12(2): 196-197. 4 Aug. 1967. WR 127: 24

[Defiance Coll., Defiance, Ohio.]

Sasov, N. P. [DATA ON THE ECOLOGY OF THE WATER RAT IN FALL, WINTER AND EARLY SPRING PERIODS.] In: (The animal world of Baraba.) Sibirsk. Otd. Akad. Nauk SSSR (Novosibirsk). p. 45-69. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 3I556. Transl. of Russian abstr.] WR 127: 24

Sealander, John A., and Linda K. Bickerstaff. SEASONAL CHANGES IN RETICULOCYTE NUMBER AND IN RELATIVE WEIGHTS OF THE SPLEEN, THYMUS, AND KIDNEYS IN THE NORTHERN RED-BACKED MOUSE. Canadian J. Zool. 45(3): 253-260, 2 figs. May 1967. WR 127: 24

[Univ. Ark., Fayetteville.] Abstract: Seasonal variations were observed in reticulocyte numbers and relative organ masses of the spleen, thymus, and kidneys in the northern red-backed mouse, Clethrionomys rutilus, in the vicinity of College, Alaska, during 1963 and 1964. There was a significant correlation between reticulocyte level and relative spleen weight and between relative spleen and thymus weights. There was no correlation between reticulocyte number and relative weight of the paired kidneys, but there were corresponding peaks in these parameters which appeared to be approximately 1 month out of phase with increase in kidney weights preceding increases in reticulocyte numbers. The probable significance of these variations is discussed in terms of adjustments of the red-backed mouse to seasonal cold exposure.

Shanev, V. D. [CONCERNING THE HABITATS AND REPRODUCTION OF SUBTERRANEAN MICROTINAE.] Uch. Zap. Kaliniskogo Gos. Pedagog. Inst. 31: 64-73. 1964. [From Biol. Abstr. 48(5), 1967, from Referat. Zhur., Biol., 1965, no. 6I147. Transl. of Russian abstr.] WR 127: 24

Shcheglova, A. I., and P. K. Smirnov. [BEHAVIOR OF SOME DESERT RODENTS UNDER EXTREME ENVIRONMENTAL CONDITIONS.] In: (Complex forms of behavior.) Nauka (Moscow-Leningrad). p. 221-231. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I598. Transl. of Russian abstr.] WR 127: 25

Sheppe, Walter. HABITAT RESTRICTION BY COMPETITIVE EXCLUSION IN THE MICE PEROMYSCUS AND MUS. Canadian Field-Nat. 81(2): 81-98, 3 figs. Apr.-June 1967. WR 127: 25
[Univ. Zambia, Lusaka, Zambia.] Mouse populations were studied for two months in the summer of 1965 on a ranch at the eastern edge of the Cascade Mountains in British Columbia. Observations were primarily by livetrapping and smoked paper tracking. It was indicated that the habitat distribution of the mice on the ranch is determined in part by competitive exclusion, in addition to the survival and perceptual characteristics of the habitats.--From summ.

Smith, Michael Howard. THE EVOLUTIONARY SIGNIFICANCE OF CERTAIN BEHAVIORAL, PHYSIOLOGICAL, AND MORPHOLOGICAL ADAPTATIONS OF THE OLD-FIELD MOUSE, PEROMYSCUS POLIONOTUS. Ph.D. thesis, Univ. Fla. 202 p. 1966. [From Dissertation Abstr. 27(9B), 1967.] WR 127: 25
Reproduction, population dynamics, metabolism, behavioral aspects, and subspecific crosses of Peromyscus polionotus.

Tast, Johan. THE ROOT VOLE, MICROTUS OECONOMUS (PALLAS), AS AN INHABITANT OF SEASONALLY FLOODED LAND. Ann. Zool. Fennici 3(3): 127-171, illus. 1966. [From Biol. Abstr. 48(11), 1967.] WR 127: 25
[Univ. Helsinki, Helsinki, Finland.]

Turner, Ronald William. EFFECTS OF FLOODING ON THE MOUSE, PEROMYSCUS LEUCOPUS. Trans. Ill. State Acad. Sci. 59(4): 390-391. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 25
[Univ. Kans., Lawrence.]

Vesey-Fitzgerald, Desmond Foster. THE HABITS AND HABITATS OF SMALL RODENTS IN THE CONGO RIVER CATCHMENT REGION OF ZAMBIA AND TANZANIA. Zool. Africana 2 (1): 111-122. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 25

Vogl, Richard J. WOOD RAT DENSITIES IN SOUTHERN CALIFORNIA MANZANITA CHAPARRAL. Southwestern Nat. 12(2): 176-179. 4 Aug. 1967. WR 127: 25
[Calif. State Coll., Los Angeles.] Abstract: Wood rat (Neotoma fuscipes macrotis) densities were obtained for four manzanita (Arctostaphylos glandulosa) chaparral associations in the Santa Ana Mountains. Densities ranged from three per acre in pure manzanita stands to 15 per acre in manzanita-chamise (Adenostoma fasciculatum) mixtures, with an average of ten rats per acre. The high densities were related to the vegetational cover which was never less than 90%. Variations in wood rat densities may also be influenced by variations in plant species composition and by the proximity of different plant associations.

Webb, Ryland E., and Frank Horsfall, Jr. ENDRIN RESISTANCE IN THE PINE MOUSE. Science 156(3783): 1762. 30 June 1967. WR 127: 25
[Va. Polytechnic Inst., Blacksburg.] Abstract: Wild pine mice with a history of treatment with endrin exhibited a 12-fold greater tolerance to the pesticide than did mice having no history of endrin treatment. A genetic basis for the resistance would be expected, in view of the fact that the resistant mice had been exposed to endrin for 11 years. However, sublethal dosages conferred a degree of resistance on both mouse populations; this indicates the possibility of an inducible resistance.

RATTUS & MUS

Adamczyk, K., and L. Ryszkowski. SETTLING OF MICE (MUS MUSCULUS L.) RELEASED IN AN UNINHABITED AND INHABITED PLACE. Acad. Pol. Sci. Bull. Ser. Sci. Biol. 13(11/12): 631-637, illus. 1965. [From Biol. Abstr. 48(4), 1967.] WR 127: 26
[Inst. Ecol., Polish Acad. Sci., Warsaw, Poland.]

Medway, Lord, and B. L. Lim. OBSERVATIONS ON THE FAUNA OF PULAU TIOMAN AND PULAU TULAI (MALAYA): 3. THE SPECIFIC RELATIONS OF RATTUS TIOMANICUS (MILLER) (ANATOMY, TAXONOMY). Nat. Mus. (Singapore) Bull. 34: 33-38. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 26

Zapletal, Milan. NEKTERE POZNATKY O SIDLISTICH KRYSY POTKANA, RATTUS NORVEGICUS BERK., V ZEMEDELSKYCH OBJEKTECH. [NOTES ON PLACES FREQUENTED BY THE BROWN RAT, RATTUS NORVEGICUS BERK., IN AGRICULTURAL BUILDINGS.] Zool. Listy 15(2): 131-146, illus. 1966. [From Biol. Abstr. 48(7), 1967. In Czech with English summ.] WR 127: 26
[Inst. Vert. Zool., Czech. Acad. Sci., Brno, Czechoslovakia.]

Zapletal, Milan. CHANGES IN THE OCCURRENCE OF BROWN RAT, RATTUS NORVEGICUS BERK., IN THE COUNTRYSIDE CAUSED BY THE TRANSFORMATION OF CZECHOSLOVAKIA'S AGRICULTURE. Zool. Listy 15(3): 225-234, illus. 1966. [From Biol. Abstr. 48 (7), 1967. In English with Czech summ.] WR 127: 26
[Inst. Vert. Zool., Czech. Acad. Sci., Brno, Czechoslovakia.]

SCIURIDS

Arzamasov, I. T., N. I. Dyl'ko, I. V. Merkusheva, and Yu. T. Petrovskii. [PARASITES OF SCIURIDAE IN BELORUSSIA (SQUIRREL, RODENTIA).] Zool. Zhur. 45 (6): 830-835. 1966. [From Biol. Abstr. 48(6), 1967. In Russian.] WR 127: 26

Cranbrook, Earl of, and W. H. Payn. SQUIRREL SURVEY 1963-1964. Trans. Suffolk Nat. Soc. 13: 82-85. 1965. [From J. Animal Ecol. 36(2), 1967.] WR 127: 26
The gray squirrel has invaded south-western Suffolk, and intergrades with the red squirrel, which prevails over the rest of the county in a belt stretching SE/NW.

Dasgupta, B. A NEW MALARIAL PARASITE OF THE FLYING SQUIRREL. Parasitology 57(3): 467-474 + 3 pls. Aug. 1967. WR 127: 26
[Government Coll., Darjeeling, West Bengal, India.] "Rayella rayi on Petaurista inornatus."

Lampio, Teppo. SEX RATIOS AND THE FACTORS CONTRIBUTING TO THEM IN THE SQUIRREL, SCIURUS VULGARIS, IN FINLAND. II. Finnish Game Res. 29. 69 p., 23 figs. 1967. WR 127: 26
In Part I [WR 119: 27] the effect of migration and disease on the sex ratio of the squirrel in Finland was discussed. In this part the effects of reproduction, population density, weather, predation, and shooting and accidents on the sex ratio are considered. In addition information is given on food consumption, reproduction and activity in different kinds of weather.

Merriam, H. Gray. REPRODUCTIVE POTENTIAL OF PRAIRIE DOGS. Texas J. Sci. 18 (4): 417-419, illus. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 26
[Univ. Texas, Austin.] "Cynomys ludovicianus."

Pavlov, B. K. [VARIABILITY IN THE PHENOTYPICAL STRUCTURE OF THE SQUIRREL POPULATIONS IN EASTERN SIBERIA.] Bull. Moscow Obshch. Ispit. Prirody (Biol.) 70(3): 131. 1965. [From Biol. Abstr. 48(7), 1967. In Russian.] WR 127: 26
"Abstract only."

Curry-Lindahl, K. THE BEAVER, CASTOR FIBER LINNAEUS, 1758 IN SWEDEN -- EXTERMINATION AND REAPPEARANCE. CASTORIANA IV. Acta Theriol. 12(1): 1-15, 3 figs. 30 Mar. 1967. In English with Russian and Polish summ. WR 127: 27
[Nordiska Museet and Skansen, Stockholm, Sweden.] In 1871 the last beaver in Sweden was killed. A series of reintroductions was initiated in 1922 and continued until 1940, when about 80 beavers, all originating from Norway, had been released in various parts of Sweden. These operations were successful. A census in 1961-1963 indicates that the population has increased to 2,206 individuals. The species enjoys total protection. Dispersal from the areas, where introductions were made, have generally followed the rivers downwards. Spectacular expansions have occurred in some areas. In 38 years a vast area, where no reintroductions had taken place, was colonized by a population of 871 beavers, originating from one pair. The only actual menace to the population is by extensive water-regulations. Future immigration by Castor canadensis from Finland may become a threat to the pure Scandinavian population of C. fiber.--From abstr.

Dezhkin, V. [THE FIRST EXPERIMENT IN BEAVER HUNTING.] Okhota & Okhotnich'e Khoz. 1964(10): 20-22. 1964. [From Biol. Abstr. 48(4), 1967, from Referat. Zhur., Biol., 1965, no. 6I201. Transl. of Russian abstr.] WR 127: 27

Hale, John G. INFLUENCE OF BEAVER ON SOME TROUT STREAMS ALONG THE MINNESOTA NORTH SHORE OF LAKE SUPERIOR. Minn. Fish Invest. 4: 5-29, illus. 1966. [From Biol. Abstr. 48(2), 1967.] WR 127: 27

Myrberget, S. THE BEAVER IN NORWAY. CASTORIANA V. Acta Theriol. 12(2): 17-26, 4 figs. 30 Mar. 1967. In English with Russian and Polish summ. WR 127: 27
[Norwegian State Game Res. Inst., Vollebekk, Norway.] Abstract: On the basis of previous literature and a questionnaire survey in 1964-65, hunting regulations, harvest statistics, distribution and population size over the years, habitat preference, diet, constructions, and destructive activities have been outlined for the beaver Castor fiber Linnaeus, 1758, in Norway. The present population is estimated at about 5,000-10,000 individuals. Most are found in the southern counties of Vest-Agder, Aust-Agder, and Telemark, but the range is slowly expanding, due in part to invasions from Sweden. Within the main distribution area, there is reason to believe that the population locally may have reached the carrying capacity of its habitat. Beaver have been artificially transported to other parts of the country and released, but apparently in groups too small to be successful, although natural conditions would seem to be suitable for beaver in many regions not presently occupied by them. The beaver is locally considered a pest to forestry and, to some extent, to agriculture. Nevertheless the numbers felled annually are too low at present to influence the population size, and there is reason to expect that in coming years the species will increase both its range and numbers in Norway.

Numerov, K. D., and P. N. Pavlov. [BEAVERS IN THE BASIN OF THE YENESEI RIVER.] Zool. Zhur. 44(12): 1850-1857, illus. 1965. [From Biol. Abstr. 48 (7), 1967. In Russian with English summ.] WR 127: 27

Safonov, V. G. [RESULTS FROM EXPERIMENTAL TRAPPING OF BEAVERS FOR THEIR PELTS.] Sbornik Nauch.-Tekh. Inform. Vses. Nauch.-Issled. Inst. Zhivotn. Syr'ya Pushniny 10: 42-51. 1964. [From Biol. Abstr. 48(3), 1967, from Referat. Zhur., Biol., 1965, no. 1I252. Transl. of Russian abstr.] WR 127: 27

Solov'ev, V. A. [NOTES ON THE BIOLOGY OF THE BEAVER (CASTOR FIBER) IN KALININ OBLAST.] Uch. Zap. Kalininskii Gos. Pedagog. Inst. 31: 123-135. 1964. [From Biol. Abstr. 48(5), 1967, from Referat. Zhur., Biol., 1965, no. 7I253. Transl. of Russian abstr.] WR 127: 27

Zharkov, I. V., and V. E. Sokolov. [THE EUROPEAN BEAVER (CASTOR FIBER LINNAEUS, 1758) IN THE SOVIET UNION. CASTORIANA VI.] Acta Theriol. 12(3): 27-46, 2 figs. 30 Mar. 1967. In Russian with English and Polish summ. WR 127: 28

[Voronezh State Reservation, Grafska St., Voronezh, USSR.] Abstract: Beavers formerly lived over almost the whole of the forest zone in the present territory of the Soviet Union and even penetrated along rivers into the part-forest, part-steppe, or the steppe zone. Today they are to be found only in a few, widely-separated places. The protection and re-acclimatisation of beavers resulted in their numbers increasing to 40,000 individuals (1964) in comparison with the 900 individuals during the twenties of the present century. The beaver's typical biotope in the Soviet Union is a body of water, with relatively stable water level, the banks of which are covered with deciduous trees and shrubs. Beavers prefer waters with closely compacted gravel banks and clayey, sandy or peat bottoms. Beavers build dams when the water level falls in rivers. They feed on about 300 species of plants (45 species of trees and shrubs, 12 species of stored green logs and approximately 140 species of land herbs). Their food varies according to season. Beavers attain sexual maturity in the third year of life. Oestrus occurs in January-February. Pregnancy lasts from 105-107 days. The female gives birth to 1-4 young (average 2.0-2.5). Lactation lasts 50-65 days. Beavers are monogamous. Increase in numbers under natural conditions varies on an average from 10 to 20% annually. The beaver's enemies are large predatory birds and mammals. Two species of external, and 25 species of internal parasites invade beavers.

MUSKRAT & NUTRIA

Ivanov, F. V. [CURRENT STATE OF THE MUSKRAT POPULATION IN THE RYAZAN' OBLAST.] Biol. Nauk 9(3): 46-49, illus. 1966. [From Biol. Abstr. 48(7), 1967. In Russian.] WR 127: 28

[Lenin Moscow State Pedagog. Inst., Moscow, USSR.]

Norris, J. D. A CAMPAIGN AGAINST FERAL COYPUS (MYOCASTOR COYPUS MOLINA) IN GREAT BRITAIN. J. Appl. Ecol. 4(1): 191-199, 2 figs. May 1967. WR 127: 28

[Min. Agr., Fisheries & Food, Cambridge, England.] Summary: A map of the distribution of coypus in the years 1961-65 shows the extent of the colonization of the eastern counties of Great Britain by this animal. Following increasing damage to agricultural crops and to the banks of waterways a Government-sponsored cage-trapping campaign was started in August 1962. The aim of the campaign was to get as near to extermination as possible since complete extermination was not considered feasible. By the end of 1965, when the campaign ended, most of the relatively few remaining coypus were in the marshy areas of east Norfolk where it was expected some would always be present. The severe winter of 1962-63 was responsible for removing a large proportion of the population but the finding of the survivors, which still had to be trapped, became more difficult. An attempt has been made to estimate the numbers of the pre-campaign coypu population.

Norris, J. D. THE CONTROL OF COYPUS (MYOCASTOR COYPUS MOLINA) BY CAGE TRAPPING. J. Appl. Ecol. 4(1): 167-189, 11 figs. + 1 pl. May 1967. WR 127: 28

[Min. Agr., Fisheries & Food, Cambridge, England.] Summary: The results of live trapping of coypus in cage traps is described. Considerable turnover of populations probably amounting to a more or less continuous interchange of some animals between neighbouring populations is demonstrated and it appears that females probably move fairly short distances before littering whilst males move longer distances. The more immigrants move into an area, the more residents apparently move out. There is some evidence of synchrony of breeding and at peak littering times trapping may catch twice as many males as females, and possible explanations for this are discussed. It was found that coypus have a sense of orientation in that when animals were moved from their place of trapping they quickly moved back again. An area was trapped out and from this it was concluded that coypus can be eliminated from an area using cage traps if immigration can be prevented.

Reimov, R. [FEATURES OF MUSKRAT REPRODUCTION CAUSED BY A CHANGE IN THE HYDROLOGICAL REGIME IN THE AMU-DAR'YA DELTA.] In: (Stocks of fish of the Aral Sea and their efficient use.) Nauka (Tashkent). p. 176-183. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 5I216. Transl. of Russian abstr.] WR 127: 29

BEARS

Neves, C. M. Baeta. SOBRE A EXISTÊNCIA E EXTINCÃO DO URSO EM PORTUGAL. [ON THE EXISTENCE AND EXTINCTION OF URSUS ARCTOS IN PORTUGAL.] Gazeta das Aldeias no. 2589. p. 3-7, [3 figs.]. 1967. In Portuguese. WR 127: 29

Razumovskii, B. I. [BEARS (URSUS ARCTOS ARCTOS L.) OF THE MOLOGA-SHEKSNA WATERSHED.] Zool. Zhur. 45(5): 725-729, illus. 1966. [From Biol. Abstr. 48 (4), 1967. In Russian with English summ.] WR 127: 29

MUSTELIDS

Coulter, Malcolm Wilford. ECOLOGY AND MANAGEMENT OF FISHERS IN MAINE. Ph.D. thesis, Syracuse Univ. 196 p. 1966. [From Dissertation Abstr. 27(9B), 1967.] WR 127: 29

Practical management is limited to administrative control of trapping. The wisdom of restocking fishers without thorough evaluation of objectives, land use patterns, human attitudes, and prospects for control by fur-trappers in any area is questioned. The maintenance of fisher populations high enough to control porcupine numbers effectively is probably biologically impossible, and in many areas not compatible with some other human uses.

Kraft, V. A. [EFFECT OF TEMPERATURE ON THE MOBILITY OF THE ERMINE IN WINTER.] Zool. Zhur. 45(1): 148-150, illus. 1966. [From Biol. Abstr. 48(10), 1967. In Russian with English summ.] WR 127: 29

Mobility of the ermine at the snow surface is directly dependent upon temperature fluctuations. When the temperature falls lower than -13° the ermine lives under the snow, feeding on shrews and on the eglantine fruit.

DOGS, WOLVES, FOXES

Ishunin, G. I. [SEASONAL VARIATION IN THE DIET OF THE DESERT WOLF (CANIS LUPUS CAMPESTRIS) (ARALPAIGAMBAR GAME RESERVATION).] Uzbekskii Biol. Zhur. 10(1): 56-57. 1966. [From Biol. Abstr. 48(1), 1967. In Russian.] WR 127: 29
[Inst. Zool. Parasitol., Tashkent, USSR.]

Palvaniyazov, M. [ECOLOGY AND ECONOMIC SIGNIFICANCE OF THE JACKAL (CANIS AUREUS) IN THE KARA-KALPAK SSR.] Uzbekskii Biol. Zhur. 9(4): 53-56. 1965. [From Biol. Abstr. 48(7), 1967. In Russian.] WR 127: 29
[Inst. Zool. Parasitol., Acad. Sci. Uz. SSR, Tashkent, USSR.]

Yakushkin, G. D. [SELF-FASTENING NOOSE FOR THE POLAR FOX.] Zool. Zhur. 45(6): 949-951, illus. 1966. [From Biol. Abstr. 48(6), 1967. In Russian with English summ.] WR 127: 29

CATS

Adamson, G. A. G. OBSERVATIONS ON LIONS IN SERENGETI NATIONAL PARK, TANGANYIKA. East African Wildl. J. 2: 160-161. Aug. 1964. WR 127: 29
[Box 27, Isiolo, Kenya.] Age, sex composition and territorial behavior of prides.

Sampson, Frank W. MISSOURI BOBCATS. Mo. Conserv. 28(8): 6-7, illus. Aug. 1967. WR 127: 30
"The distribution of bobcat range in Missouri is rather limited. The main range covers about 9 counties, and they occur in lesser numbers in 16 other counties in the southern and southeast Ozark highlands."

White, Thomas. HISTORY OF THE COUGAR IN SASKATCHEWAN. Blue Jay 25(2): 84-89, 2 figs. June 1967. WR 127: 30
[2105 Cornwall St., Regina, Saskatchewan, Canada.] Until the late 1940's the cougar was extremely rare. Since then it has expanded its range.

BIG GAME, GENERAL

Aleksandrov, L. [DISEASES OF ELKS AND WILD REINDEER IN THE NOVOSIBIRSK OBLAST' AND THE HEAVY MORTALITY.] Okhota & Okhotnich'e Khoz. 1959(9): 22-23. 1959. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1960, no. 76748. Transl. of Russian abstr.] WR 127: 30

Bannikov, A. G., and V. P. Teplov. [THE CHANGE IN NUMBERS AND POPULATION DENSITY OF EUROPEAN ELK (ALCES ALCES) IN THE RSFSR.] In: (The biology and hunting of the European elk.) Rossel'khozizdat (Moscow) 1: 5-12. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 8I267. Transl. of Russian abstr.] WR 127: 30

Bellinge, W. H. S., and F. W. Woodley. SOME NOTES ON THE REARING OF YOUNG AFRICAN ELEPHANTS. East African Wildl. J. 2: 71-74, 1 fig. Aug. 1964. WR 127: 30
[Provincial Veterinary Officer, Central Region, Kenya.] Description, diet, disease control, and general management.

Bouchud, J. LE CERVUS MEGACEROS DANS LE SUD ET LE SUD-OUEST DE LA FRANCE. [CERVUS MEGACEROS IN THE SOUTH AND SOUTHWEST OF FRANCE.] Israel J. Zool. 14 (1/4): 24-37, illus. 1965. [From Biol. Abstr. 48(10), 1967. In French with English summ.] WR 127: 30

Buss, Irven O., and Oscar W. Johnson. RELATIONSHIPS OF LEYDIG CELL CHARACTERISTICS AND INTRATESTICULAR TESTOSTERONE LEVELS TO SEXUAL ACTIVITY IN THE AFRICAN ELEPHANT. Anat. Rec. 157(2): 191-196, 1 fig. Feb. 1967. WR 127: 30
[Wash. State Univ., Pullman.]

Christie, A. H. C., and J. R. H. Andrews. INTRODUCED UNGULATES IN NEW ZEALAND. FALLOW DEER (DISTRIBUTION, DESCRIPTION, DISEASES). Tuatara 14 (2): 82-84, 85-88, illus. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 30
[New Zealand Forest Serv., Wellington, New Zealand.]

Collier, R. V. SOME ASPECTS OF FALLOW DEER (DAMA DAMA) AT CASTOR HANGLANDS NATIONAL NATURE RESERVE. J. Northamptonshire Nat. Hist. Soc. 35: 360-364. 1965. [From J. Animal Ecol. 36(2), 1967.] WR 127: 30
A study of the population, breeding biology and feeding habits of a small herd of fallow deer dating from escapes from a nearby park about 1940. In some areas the grazing of the deer is a significant biotic factor.

Cowen, G. A., Viscount Ridley, and H. S. Tegner. ROE DEER IN NORTHUMBERLAND AND DURHAM. Trans. Nat. Hist. Soc. Northumberland 15: 109-120. 1965. [From J. Animal Ecol. 36(2), 1967.] WR 127: 30
An account of the history and spread of the roe Capreolus capreolus in Northumberland and Durham during the past 100 years; the population is estimated to have increased from under 100 to c. 2350. There is reason to suppose that the roe never became extinct in northern England at the end of the 18th century, as was formerly believed.

Daniel, J. C., and B. R. Grubh. THE INDIAN WILD BUFFALO, BUBALUS BUBALIS (LINN.), IN PENINSULAR INDIA: A PRELIMINARY SURVEY. Bombay Nat. Hist. Soc. 63(1): 32-53, illus. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 31
[Bombay Nat. Hist. Soc., Bombay, India.]

de Crombrugghe, S. A. UNTERSUCHUNGEN ÜBER DIE REPRODUKTION DES ROTWILDES IN DEN NIEDERLANDEN. [INVESTIGATIONS ON THE REPRODUCTION OF THE RED DEER IN THE NETHERLANDS.] Z. Jagdwissenschaft 10(3): 91-101, 1 fig. Sept. 1964. In German with English and French summ. WR 127: 31
Pregnancy rates are compared of deer of different ages and areas of the forest of Veluwe. The mean annual increase of the population is calculated from these rates.

Desmeules, Pierre. DÉTERMINATION DE LA PRODUCTIVITÉ DE L'ORIGNAL DU PARC DES LAURENTIDES: RAPPORT DU PROGRÈS DES TRAVAUX. [DETERMINATION OF MOOSE PRODUCTIVITY IN THE LAURENTIDES PARK: REPORT OF WORK PROGRESS.] Quebec Serv. Faune Rapp. 1: 66-70. 1963. [From Biol. Abstr. 48(9), 1967. In French.] WR 127: 31

Desmeules, Pierre, and J. M. Brassard. INVENTAIRE AÉRIEN DE L'ORIGNAL DANS LE PARC DES LAURENTIDES: RAPPORT PRÉLIMINAIRE--1962. [AN AERIAL INVENTORY OF THE MOOSE IN LAURENTIDES PARK (CANADA): PRELIMINARY REPORT OF 1962.] Quebec Serv. Faune Rapp. 1: 58-65. 1963. [From Biol. Abstr. 48(9), 1967. In French.] WR 127: 31

Desmeules, Pierre, and J. M. Brassard. INVENTAIRE PRÉLIMINAIRE DU CARIBOU (RANGIFER TARANDUS CARIBOU) D'UN SECTEUR DE LA COTE-NORD ET DU SECTEUR CENTRE DE L'UNGAVA. PRINTEMPS 1963. [PRELIMINARY INVENTORY OF CARIBOU (RANGIFER TARANDUS CARIBOU) FROM A SECTION ON THE NORTH COAST AND A CENTER SECTION IN THE UNGAVA, (CANADA), SPRING 1963.] Quebec Serv. Faune Rapp. 3: 187-218, illus. 1964. [From Biol. Abstr. 48(9), 1967. In French.] WR 127: 31

Desmeules, Pierre, and Jean-Marie Brassard. INVENTAIRE PAR VOIE TERRESTRE DE L'ORIGNAL DU PARC DES LAURENTIDES. [INVENTORY BY LAND TRANSECT OF THE MOOSE.] Quebec Serv. Faune Rapp. 3: 219-224. 1964. [From Biol. Abstr. 48(9), 1967. In French.] WR 127: 31

Desmeules, Pierre, and Jean-Marie Brassard. UNE MÉTHODE POUR LE MARQUAGE AUTOMATIQUE DE L'ORIGNAL. [A METHOD FOR THE AUTOMATIC MARKING OF THE MOOSE.] Quebec Serv. Faune Rapp. 3: 148-159, illus. 1964. [From Biol. Abstr. 48(9), 1967. In French.] WR 127: 31

Espmark, Yngve. TAGDODEN BLAND REN. [RAILWAY MORTALITY OF REINDEER IN SWEDEN.] Zool. Revy 28(1): 20-31, illus. 1966. [From Biol. Abstr. 48(7), 1967. In Swedish with English summ.] WR 127: 31

Fischer, H. SECONDARY SEX RATIO IN THE WATER BUFFALO (BUBALUS BUBALIS). Tierzücht Züchtungsbiol. 82(4): 361-363. 1966. [From Biol. Abstr. 48(9), 1967. In English with German summ.] WR 127: 31
[Justus Liebig-Univ., Giessen, Germany.]

Galaka, B. A. [THE EXPANSION OF THE RANGE OF THE EUROPEAN ELK (ALCES ALCES) IN THE UKRAINE.] In: (The biology and hunting of the European elk.) Rossel'khozizdat (Moscow) 1: 35-43. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 8I270. Transl. of Russian abstr.] WR 127: 31

Ghee, E. P. REPORT ON THE STATUS OF THE KASHMIR STAG, OCTOBER 1965. J. Bombay Nat. Hist. Soc. 62(3): 389-393, illus. 1965. [From Biol. Abstr. 48(1), 1967.] WR 127: 31

Greer, Kenneth R., and Harley W. Yeager. SEX AND AGE INDICATIONS FROM UPPER CANINE TEETH OF ELK (WAPITI). J. Wildl. Mgmt. 31(3): 408-417, 3 figs. July 1967. WR 127: 32

[Mont. Fish & Game Dept., Bozeman.] Abstract: Permanent upper canine teeth of elk (Cervus canadensis) differ morphologically according to sex. Canine eruption, development, and attrition are similar for each sex and are associated with age. Studies conducted during all seasons of the year in the Northern Yellowstone Elk Herd provided 580 pairs of upper canine teeth with respective lower jaws. Canine teeth were assembled on a reference board by sex and by year-class as indicated by replacement and wear patterns of cheek teeth of lower jaws. When paired canine teeth were assigned ages from the reference board and then compared with ages as determined from the corresponding jaws, calves, yearlings, and 2-year-olds were readily recognizable. Canine-assigned ages agreed with jaw-assigned ages 96 percent of the time for two older age-groups: 3-7 years and 8 years and older. Trials with students, to whom variations between teeth on a reference board were described, indicated the simplicity and accuracy of this method.

Havlas, Milan. PADESAT LET OD VYSAZENI KAMZIKA HORSKEHO RUPICAPRA RUPICAPRA (L.) V JESENIKACH. [FIFTY YEARS SINCE THE STOCKING OF RUPICAPRA RUPICAPRA L. IN JESENIKY.] Zool. Listy 14(1): 1-8. 1965. [From Biol. Abstr. 48(7), 1967. In Czech with German summ.] WR 127: 32

[Vitezny Unor. 3, Opava, Czechoslovakia.]

Jarrett, W. H. F., F. W. Jennings, M. Murray, and A. M. Harthoorn. MUSCULAR DYSTROPHY IN WILD HUNTER'S ANTELOPE. East African Wildl. J. 2: 158-159. Aug. 1964. WR 127: 32

[Royal Coll., Nairobi, Kenya.] Autopsy of Damaliscus hunteri dying after capture revealed histological lesions indicative of muscular dystrophy.

Johnson, Oscar W., and Irven O. Buss. THE TESTIS OF THE AFRICAN ELEPHANT (LOXODONTA AFRICANA). I. HISTOLOGICAL FEATURES. J. Reprod. Fert. 13: 11-22, 1 fig. + 3 pls. 1967. WR 127: 32

[Moorhead State Coll., Moorhead, Minn.]

Johnson, Oscar W., and Irven O. Buss. THE TESTIS OF THE AFRICAN ELEPHANT (LOXODONTA AFRICANA). II. DEVELOPMENT, PUBERTY AND WEIGHT. J. Reprod. Fert. 13: 23-30, 1 fig. 1967. WR 127: 32

[Moorhead State Coll., Moorhead, Minn.]

Koivisto, Ilkka. YHTEENVETO HIRVILASKENNAN TULOKSISTA VUONNA 1966. [RESULTS OF MOOSE (ALCES ALCES) CENSUS IN FINLAND IN 1966.] Suomen Riista 19: 42-45, 1 fig. 1966. In Finnish with English summ. WR 127: 32

In the early spring of 1966 the second moose census was carried out in Finland. The first census was in 1962. On the basis of the census it may be determined that the number of moose had increased by slightly over 20% in four years. The total number of moose in early spring 1966 was estimated, on the basis of the census, at slightly under 40,000.--From summ.

Lent, Peter C. THE CARIBOU OF NORTHWESTERN ALASKA. In: (Environment of the Cape Thompson Region, Alaska, United States Atomic Energy Commission.) (Oak Ridge, Tenn.). p. 481-517, illus. 1966. [From Biol. Abstr. 48(9), 1967.] WR 127: 32

[Univ. Basutoland, Basutoland, South Africa.]

Lowe, V. P. W. TEETH AS INDICATORS OF AGE WITH SPECIAL REFERENCE TO RED DEER (CERVUS ELAPHUS) OF KNOWN AGE FROM RHUM. J. Zool. (London) 152(2): 137-153, 1 fig. + 5 pls. June 1967. WR 127: 32

[Speyside Res. Sta., Aviemore, England.] Abstract: An experiment in land management and red deer population control was begun by the Nature Conservancy on the Isle of Rhum, a National Nature Reserve off the west coast of Scotland, in 1957. To assess the results fully it has become necessary to determine the

most suitable ageing method which can be applied to the material, which has accumulated since from the annual deer culls and natural deaths. Using mandibles only from individuals, whose age was certainly known by marking at birth, and which, in most cases were shot by mistake during subsequent annual culling operations, four different techniques were critically tested. These comprised correlating various combinations of jaw and tooth measurements with age, examining the nature and quantity of secondary dentine deposited within the crown of the first incisor, interpreting the number of layers in the pad of cementum beneath the crown of the first molar, and assessing the stages reached in tooth replacement, eruption and wear. Of these various methods, ageing by tooth replacement, eruption and wear proved the most reliable.

MacNally, L. THE MANAGEMENT AND CONTROL OF RED DEER, SOME BRIEF NOTES. Scot. Forest. 21(1): 15-18. Jan. 1967. [From Bibliog. Agr. 31(6), 1967.] WR 127: 33

McCullough, Dale Richard. THE TULE ELK: ITS HISTORY, BEHAVIOR, AND ECOLOGY. Ph.D. thesis, Univ. Calif. (Berkeley). 396 p. 1966. [From Dissertation Abstr. 27(10B), 1967.] WR 127: 33

McEwan, E. H. A PNEUMATIC SCALE FOR WEIGHING WILD UNGULATES. J. Wildl. Mgmt. 31(3): 593-595, 1 fig. July 1967. WR 127: 33

[Canadian Wildl. Serv., Vancouver, British Columbia.] Abstract: A pneumatic scale suitable for weighing immobilized or dead ungulates in the field is described. It consists of a plywood platform resting on an inflated inner tube connected to a manometer. Corrected weights obtained in the laboratory for 16 reindeer (Rangifer tarandus) did not differ significantly from weights obtained by use of platform scales. In field tests, weights obtained by the pneumatic device corresponded closely with those obtained on a spring scale.

Minguy, Claude. SAISON DE CHASSE AU CHEVREUIL 1961. [HUNTING SEASON OF THE ROE-DEER IN 1961.] Quebec Serv. Faune Rapp. 1: 103-122, illus. 1963. [From Biol. Abstr. 48(9), 1967. In French.] WR 127: 33

Mitchell, Brian. GROWTH LAYERS IN DENTAL CEMENT FOR DETERMINING THE AGE OF RED DEER (CERVUS ELAPHUS L.). J. Animal Ecol. 36(2): 279-293, 4 figs. + 1 pl. June 1967. WR 127: 33

[Nature Conserv., 12 Hope Terrace, Edinburgh, Scotland.] Summary: Growth layers in dental cement of red deer (Cervus elaphus L.) were studied in samples of material from both sexes, taken throughout the year in various parts of Scotland, and from a limited amount of known-age material (twenty-two animals of which only two were older than 3.5 years). The lower first molar, the first permanent tooth, was the most convenient to use and it was sectioned to expose the layers in the cement pad (under the crown) for viewing by reflected light under a low-power binocular dissecting microscope. Cement comprises broad layers rich in cementocytes, associated with the summer/autumn period of growth, separated by narrower layers deficient in cementocytes, corresponding with the period of winter/early spring food restriction. Some stags also showed a narrow winter-like layer corresponding with the mating season (rutting layers). Seasonal changes in body condition due to changes in diet appear the best explanation for the annual pattern of cement growth, but other factors may be involved. The number of broad white (cementocyte rich) layers found in first molar cement pads mostly gives the correct age in years. Other teeth can also give the age using a correction factor appropriate to each. The present results indicate that the method may be less effective with animals showing irregular or less seasonal variations in growth.

Pruitt, William O. THE FUNCTION OF THE BROW-TINE IN CARIBOU ANTLERS. Arctic 19(2): 111-113, illus. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 33

[Memorial Univ., St. John's, Newfoundland, Canada.]

Rakov, N. V. [THE GEOGRAPHICAL AND ECOLOGICAL POPULATIONS OF EUROPEAN ELK (ALCES ALCES) IN AMUR-USSURIISK KRAI.] In: (The biology and hunting of the European elk.) Rossel'khozizdat (Moscow) 1: 44-100. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 8I271. Transl. of Russian abstr.] WR 127: 34

Rykovskii, A. S. [OBSERVATIONS DURING THE BELLOWING OF EUROPEAN ELK (ALCES ALCES) IN KALUZHKOI OBLAST.] In: (The biology and hunting of the European elk.) Rossel'khozizdat (Moscow) 1: 143-150. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 8I273. Transl. of Russian abstr.] WR 127: 34

Schloeth, R. VERWANDTSCHAFTLICHE BEZIEHUNGEN UND RUDELBILDUNG BEIM ROTHIRSCH (CERVUS ELAPHUS L.). [KINDRED RELATIONSHIPS AND HERD FORMATION AMONG RED DEER (CERVUS ELAPHUS L.).] Rev. Suisse Zool. 73(24): 434-440, 1 fig. Sept. 1966. In German. WR 127: 34

Short, R. V., and T. Mann. THE SEXUAL CYCLE OF A SEASONALLY BREEDING MAMMAL, THE ROEBUCK (CAPREOLUS CAPREOLUS). J. Reprod. Fertil. 12(2): 337-351, illus. 1966. [From Biol. Abstr. 48(4), 1967.] WR 127: 34
[Univ. Cambridge, Cambridge, England.]

Stewart, D. R. M. THE ARABIAN ORYX (ORYX LEUCORYX PALLAS): 2. East African Wildl. J. 2: 168-169. Aug. 1964. WR 127: 34
[Kenya Game Dept., Nairobi, Kenya.] This note updates an earlier report [see WR 112: 30] on the status of the Arabian oryx. In the wild there are 100-200 alive in one area and 20 in another area. There are 22 in captivity.

Turyanin, I. [THE CARPATHIAN RED DEER (CERVUS ELAPHUS).] Okhota & Okhotnich'e Khoz. 1964(10): 19. 1964. [From Biol. Abstr. 48(3), 1967, from Referat. Zhur., Biol., 1965, no. 6I200. Transl. of Russian abstr.] WR 127: 34

Ustinov, S. K. [SOME BIOLOGICAL QUESTIONS CONCERNING THE EUROPEAN ELK (ALCES ALCES) IN THE BARGUZINSK RANGE.] In: (The biology and hunting of the European elk.) Rossel'khozizdat (Moscow) 1: 151-155. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 8I272. Transl. of Russian abstr.] WR 127: 34

Winter, W. H. ELEPHANT BEHAVIOUR. East African Wildl. J. 2: 163-164. Aug. 1964. WR 127: 34
[P. O. Box 368, Kitale, Kenya.] Efforts of elephants to help wounded elephants are described.

Yazan, Yu. P., and E. P. Knoore. [PROBLEMS OF THE ECONOMIC UTILIZATION OF ELKS (ALCES ALCES) IN THE USSR.] Pechoro-Ilychskogo Goszapovednika 11: 7-18. 1964. [From Biol. Abstr. 48(3), 1967, from Referat. Zhur., Biol., 1965, no. 1I250. Transl. of Russian abstr.] WR 127: 34

Zykova, L. Yu. [FLUCTUATIONS IN THE NUMBER OF EUROPEAN ELK (ALCES ALCES) AND A FEW FACTS CONCERNING THEIR ECOLOGY ON THE OKSK GAME PRESERVE.] In: (The biology and hunting of the European elk.) Rossel'khozizdat (Moscow) 1: 127-142. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 8I269. Transl. of Russian abstr.] WR 127: 34

DEER (Odocoileus)

Anderson, Roy C., and Uta R. Strelive. THE PENETRATION OF PNEUMOSTRONGYLUS TENUIS INTO THE TISSUES OF WHITE-TAILED DEER. Canadian J. Zool. 45(3): 285-289, 15 figs. on 7 pls. May 1967. WR 127: 34
[Univ. Guelph, Guelph, Ontario, Canada.] Abstract: Three fawns of white-tailed deer (Odocoileus virginianus), given 1500-2200 infective larvae of Pneumostrongylus tenuis Dougherty, 1945, were autopsied 65, 90, and 144 hours

later. Detailed examination of these fawns indicated most larvae penetrated the ventral curvature of the abomasum and moved into the mesentery and omentum where some could be found up to 6 days after infection. The subsequent course of larvae was not established conclusively. Small numbers reached the liver and lungs. However, the high incidence of eosinophil infiltrations associated with nerves ventral to the lumbosacral region of the vertebral column suggests worms may migrate directly to the spinal cord from the peritoneal cavity. Evidence for any other route was not obtained. There was no evidence, in this and other published work, that larvae reach the central nervous system before 10 days.

Andersson, Per, and Ilkka Koivisto. ESIINTYYKÖ VALKOHÄNTÄPEUROISSAMME PNEUMOSTRONGYLUS-LOISTA? [DOES PNEUMOSTRONGYLUS TENUIS OCCUR IN FINNISH WHITE-TAILED DEER?] Suomen Riista 19: 127-129. 1966. In Finnish with English summ. WR 127: 35

Summary: The authors have examined 27 white-tailed deer, two fallow deer and two European moose for Pneumostrongylus tenuis invasion. Also the archives of the State Game Research Institute were examined with the aim of finding reports of "moose sickness". So far no indication of Pneumostrongylus has been found.

Behrend, Donald F., and Robert D. McDowell. ANTLER SHEDDING AMONG WHITE-TAILED DEER IN CONNECTICUT. J. Wildl. Mgmt. 31(3): 588-590. July 1967. WR 127: 35

[Univ. Maine, Orono.] Abstract: Examination of the records of 454 yearling and adult male white-tailed deer (Odocoileus virginianus) killed during all months, 1955-60, showed that the general period of antler shedding extends from about mid-December through January. One hundred and eighty-four bucks killed within this period provided a sample for analyzing antler-shedding patterns. Some differences in time of shedding were observed between different years, though little variation was found among the state's eight counties. As a group, yearlings appeared to shed their antlers later than older deer, but these differences were not significant (P is greater than 0.05).

Behrend, Donald Fraser. BEHAVIOR OF WHITE-TAILED DEER IN AN ADIRONDACK FOREST. Ph.D. thesis, Syracuse Univ. 224 p. 1966. [From Dissertation Abstr. 27(9B), 1967.] WR 127: 35

The behavior of white-tailed deer (Odocoileus virginianus borealis, Miller) was studied on a 15,000-acre forest in the Adirondack Mountains from June, 1963 through February, 1966. Distribution and activity were investigated by counts of 24-hour accumulations of tracks on forest roads, and activity, ranging, social behavior, aquatic feeding behavior, and response to human disturbance were studied by observation of deer along roadsides and lakeshores.

Clark, Tim W. STOMACH CONTENTS OF A WHITETAIL DEER FAWN (ODOCOILEUS VIRGINIANUS). Proc. Okla. Acad. Sci. 46: 220-221. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 35

[Univ. Wyo., Laramie.] A female whitetail fawn, estimated age 6 weeks, was road killed in Boiling Springs State Park, Woodward Co., Oklahoma, on 10 July 1965. The stomach contents expressed in percentages of weight and volume, respectively, were: 90.4, 62.5 milk; 4.2, 25.0 grass; 0.9, 8.3 leaves; and 3.5, 4.1 unidentified material (including a smooth sumac (Rhus glabra) seed).

Glazener, W. C., and F. F. Knowlton. SOME ENDOPARASITES FOUND IN WELDER REFUGE DEER. J. Wildl. Mgmt. 31(3): 595-597. July 1967. WR 127: 35

[Welder Wildl. Foundation, Sinton, Texas.] Abstract: A total of 129 white-tailed deer (Odocoileus virginianus) from the Welder Refuge, near Sinton, San Patricio County, Texas, were cursorily checked for endoparasites. The large American liver fluke (Fascioloides magna) occurred in 67 percent of the males and 47 percent of the females examined over a 22-month period. Nematodes found included three genera: Ostertagia, Strongyloides, and Trichostrongylus. There also was one blood sporozoan, Theileria sp. Nose bots, Cephenemyia spp.,

were found in 23 of 62 deer necropsied between late August and early March. Screwworms, larvae of Callitroga hominivorax, ceased to be a hazard to deer fawns following initiation of the USDA screwworm fly control program.

Hawkins, R. E., D. C. Autry, and W. D. Klimstra. COMPARISON OF METHODS USED TO CAPTURE WHITE-TAILED DEER. J. Wildl. Mgmt. 31(3): 460-464. July 1967. WR 127: 36

[Ill. Nat. Hist. Surv., Urbana.] Abstract: Seven methods used to capture white-tailed deer (Odocoileus virginianus) on Crab Orchard National Wildlife Refuge in southern Illinois from September, 1963, to December, 1965, collectively resulted in 507 live-captures (original captures plus recaptures) and 100 mortalities. Results were as follows: corral traps, 260 live-captures and 42 mortalities; box traps, 47 live-captures and 0 mortalities; Tranimul, an oral sedative, 28 live-captures and 8 mortalities; crossbow, 70 live-captures and 13 mortalities; Cap-Chur equipment, 60 live-captures and 15 mortalities; longbow, 42 live-captures and 21 mortalities; snares, 1 mortality. Man-hours required to successfully capture a deer were: corral traps, 1.1; box traps, 1.3; Tranimul, 2.2; crossbow, 2.4; Cap-Chur equipment, 7.5; longbow, 11.8; and snare, 26.0. Trapping was the most efficient capture method during periods when deer could be baited; when natural food was abundant, the crossbow, Cap-Chur equipment, and longbow, in that order, produced best results.

Jukkara, Aimo, Ilkka Koivisto, and Erkki Rajakoski. VALKOHÄNTÄPEURAN SUKUELINNÄYTTEISTÄ SAATUJA TUTKIMUSTULOKSIA. [RESULTS OF A STUDY OF THE SEXUAL ORGANS OF WHITE-TAILED DEER (ODOCOILEUS VIRGINIANUS) IN FINLAND.] Suomen Riista 19: 72-78, 2 figs. 1966. In Finnish with English summ. WR 127: 36

"The average number of embryos, in yearlings and adults, was about 1.8 in the does examined. This is an exceptionally high figure."

Klussmann, Wallace G., and James G. Teer, conference committee. PROCEEDINGS OF THE WILDLIFE CONFERENCE ON THE WHITETAILED DEER--ITS PROBLEMS AND POTENTIALS. MEMORIAL STUDENT CENTER TEXAS A & M UNIVERSITY, COLLEGE STATION, TEXAS JUNE 29-30, 1966. 110 p., illus. [1966.] WR 127: 36

[Texas A & M Univ., College Station.] The following papers were presented: The department of wildlife science -- A summary for 1966, Richard J. Baldauf; Texas recreation -- Today and tomorrow, Leslie M. Reid; Deer and the commercialized hunting system in Texas, Wallace G. Klussmann; The ecosystem concept, Jack M. Inglis; The need for collecting vital statistics of deer herds, James G. Teer; Carrying capacity and overpopulation problems in Texas deer herds, Jack Ward Thomas; Deer density and reproduction, James G. Teer; Habitat manipulation and livestock competition on multiple use rangeland, Don Huss; Recovery of a southern forest from excessive utilization, an example of good deer management, Daniel W. Lay; Some economic considerations of alternative deer lease arrangements, Nathan K. Forrest; Deer lease insurance coverage, John L. Van Osdall; Liability of landowners arising under hunting leases in Texas, James H. Dozier.

Koivisto, Ilkka. YHTEENVETO VALKOHÄNTÄPEURALASKENNASTA VUONNA 1966. [CENSUS OF WHITE-TAILED DEER (ODOCOILEUS VIRGINIANUS) IN FINLAND IN 1966.] Suomen Riista 19: 100-104, 3 figs. 1966. In Finnish with English summ. WR 127: 36

Summary: In late spring 1966 a census of white-tailed deer was taken in addition to the census of moose. The same method was used, that is, the hunting areas were divided into sections, and one hunter on skis checked each section carefully. The results of the census appear in the tables and figures given in the paper. The white-tailed deer is rapidly increasing in numbers in Finland, and spreading. The most powerful expansion has taken place towards west, south-west and south. It was observable that water-courses, even relatively narrow, constitute important obstacles to the spread of the white-tailed deer and slow down its spreading considerably. Extensive forest and bog regions have apparently the same effect.

Koivisto, Ilkka, Per Andersson, and Aimo Jukkara. VALKOHÄNTÄPEUROJEN JOUKKOKUOLEMA TALVELLA 1965/66. [MASS DEATH OF THE WHITE-TAILED DEER (ODOCOILEUS VIRGINIANUS) IN THE WINTER OF 1965/66 IN FINLAND.] Suomen Riista 19: 20-29, 3 figs. 1966. In Finnish with English summ. WR 127: 37

It is clear that although the deer population suffered considerable losses (perhaps 10 percent died) in Finland in the winter of 1965/66 the situation need not cause concern. In ordinary winters and somewhat more severe winters the mortality has been small. The writers arrived at the conclusion that the white-tailed deer has adapted well to the conditions of southern and central Finland, and the deaths of winter 1965/66 may in fact improve their adaption ability by weeding out genetically weak individuals.

Michael, Edwin D. BEHAVIORAL INTERACTIONS OF DEER AND SOME OTHER MAMMALS. Southwestern Nat. 12(2): 156-162. 4 Aug. 1967. WR 127: 37

[Stephen F. Austin State Coll., Nacogdoches, Texas.] Abstract: Field observations were made of interactions between white-tailed deer (Odocoileus virginianus) and other mammals on the Welder Refuge in San Patricio County, Texas, between February, 1961, and February, 1963. Encounters between white-tailed deer and other mammals resulted in the following conclusions regarding the proximate, short-term effects: the presence of coyotes (Canis latrans), bobcats (Lynx rufus), javelina (Pecari tajacu), horses and cattle may be detrimental to deer, and likewise the presence of deer may be detrimental to bobcats and coyotes.

Montgomery, G. G., and R. E. Hawkins. DIAZEPAM BAIT FOR CAPTURE OF WHITE-TAILED DEER. J. Wildl. Mgmt. 31(3): 464-468. July 1967. WR 127: 37

[Ill. Nat. Hist. Surv., Urbana.] Abstract: Diazepam, a tranquilizer, was applied to ear corn during 1964, 1965, and 1966, and resulted in 29 captures of wild white-tailed deer (Odocoileus virginianus) in Pope and Johnson counties, Illinois. Sedated deer were manually restrained to effect their capture. Nicotine alkaloids introduced with a syringe dart were used to immobilize 13 deer which attempted to escape. Fifteen deer did escape. Four pregnant does, two of which had received injections of nicotine alkaloids, died without recovering from sedation.

Robinson, R. M., K. L. Kuttler, J. W. Thomas, and R. G. Marburger. THEILERIASIS IN TEXAS WHITE-TAILED DEER. J. Wildl. Mgmt. 31(3): 455-459, 5 figs. July 1967. WR 127: 37

[Texas A & M Univ., College Station.] Abstract: Theileria sp. was found in 57 percent of 1,630 white-tailed deer (Odocoileus virginianus) killed in Texas. Fourteen affected deer which were necropsied had small involuted spleens, anemia, and varying degrees of lymphocytic depletion. Five splenectomized and five nonsplenectomized fawns were inoculated with blood from a parasitized deer. One fawn died. Surviving splenectomized deer did not regain preinoculation erythrocyte values. No signs of infection were seen in the nonsplenectomized deer.

Robinson, R. M., J. W. Thomas, and R. G. Marburger. ABNORMAL ANTLER SHEDDING ASSOCIATED WITH HYPOGONADISM IN CENTRAL TEXAS DEER. Southwestern Vet. 20(2): 93-98, 4 figs. Winter 1967. WR 127: 37

[Texas A & M Univ., College Station.] Abstract: Antler shedding patterns of ten wild hypogonadal male white-tailed deer in Central Texas were observed throughout a two-year period. Four captive hypogonadal deer were also studied. Serum alkaline phosphatase activity was higher in one hypogonadal deer which resulted from increased surface area involved in bone deposition in the abnormal antlers. Annual antler development and shedding was similar in each hypogonadal deer. Intramuscular testosterone injections in one hypogonadal resulted in resumption of near-normal antler development, but did not result in gonadal recovery.

Schultz, Vincent. CALCIUM CONTENT OF WHITE-TAILED DEER MANDIBLES. J. Wildl. Mgmt. 31(3): 591-593. July 1967. WR 127: 38
[Wash. State Univ., Pullman.] Abstract: The percentage of calcium in the ash of white-tailed deer mandibles was determined for 68 specimens collected from a Maryland herd. There was no statistically significant differences among ages or between sexes. The overall average percent, 37.8 was comparable with presented values for North American big game.

Ullrey, D. E., W. G. Youatt, H. E. Johnson, L. D. Fay, and B. E. Brent. DIGESTIBILITY OF CEDAR AND JACK PINE BROWSE FOR THE WHITE-TAILED DEER. J. Wildl. Mgmt. 31(3): 448-454, 1 fig. July 1967. WR 127: 38
[Mich. State Univ., East Lansing.] Abstract: Thirty-six pregnant white-tailed deer (Odocoileus virginianus), 2.5 to 3.5 years old, were used to study the digestibility of browse from northern white cedar (Thuja occidentalis) and from jack pine (Pinus banksiana). The deer fed cedar ate four to five times as much as those fed jack pine, and the deer fed jack pine lost appreciably more weight. However, jack pine exceeded cedar in the apparent digestibility of crude fiber and ether extract. In all groups, hemoglobin concentration and hematocrit percentage increased from the beginning of diet adjustment to the end of fecal collections, with the greater change observed in deer fed jack pine. Serum protein concentration also increased during this period, but similarly on both diets. The rumen liquor of deer fed jack pine had a higher concentration of ammonia nitrogen, expressed as a percent of total nitrogen, and a lower concentration of volatile fatty acids.

Walsh, Bill. BY WAY OF COMPARISON. Pa. Game News 38(3): 10-13, illus. Mar. 1967. WR 127: 38
Popular account of deer harvests, population, percentage of herd harvested and harvest per square mile for white-tail deer in ten states. Harvests ranged from 9 to 23% of the herds. For contrast the figures of Utah mule deer are also included--35% of the herd was harvested.

MAMMALS--MARINE

Allen, K. Radway. SOME METHODS FOR ESTIMATING EXPLOITED POPULATIONS (BASED ON BALEEN WHALE STOCKS). Fish. Res. Board Canada J. 23(10): 1553-1574, illus. 1966. [From Biol. Abstr. 48(6), 1967.] WR 127: 38

Andersen, Søren. L'ALIMENTATION DU MARSOUIN (PHOCAENA PHOCAENA L.) EN CAPTIVITÉ. [THE NUTRITION OF THE PORPOISE (PHOCAENA PHOCAENA L.) IN CAPTIVITY.] Vie & Milieu 16(2A): 799-810, illus. 1965. [From Biol. Abstr. 48(4), 1967. In French with English and German summ.] WR 127: 38
[Univ. Copenhagen, Copenhagen, Denmark.]

Bruemmer, Fred. GRAY SEALS ON BASQUE ISLAND. Carnets de Zool. 27(1): 4-8, illus. 1967. WR 127: 38
An account of the seal colony of 400 Halichoerus grypus that was discovered during an aerial survey in 1962. Basque Island is less than 2 acres in size and is 2 miles east of Cape Breton Island. In 1966 another colony of 1,000 seals (the largest concentration of gray seals in North America) was found on the ice of George Bay west of Cape Breton.

Cameron, Austin W. BREEDING BEHAVIOR IN A COLONY OF WESTERN ATLANTIC GRAY SEALS. Canadian J. Zool. 45(2): 161-173, 2 figs. Mar. 1967. WR 127: 38
[McGill Univ., Montreal, Quebec, Canada.] Abstract: The author spent two weeks in early February observing the breeding behavior of gray seals on the Basque Islands, Nova Scotia, the first such study carried out anywhere in the western Atlantic. The North American populations differ from their British counterparts in that they breed in midwinter rather than in the fall. It is suspected that other differences exist. By early February the bulls had already established territories and each territory contained several cows with

pups. At least one bull attempted to keep his cows from entering the territory of another bull. No fighting was observed between bulls holding territories, but younger bulls were constantly challenging the supremacy of the resident bulls and several fights were observed. A peculiar rolling performance associated with agonistic behavior is described. A diurnal activity pattern was discernible in the cows but none in the bulls. The relationship between the cows and their pups is described, including nursing and play behavior. Copulating behavior between a young bull and a cow is described.

Clark, John. OCCURRENCE OF THE BOTTLENOSE PORPOISE IN A TIDAL RIVER. Underwater Nat. 3(3): 19-20, illus. 1965. [From Biol. Abstr. 48(7), 1967.] WR 127: 39
[Sandy Hook Marine Lab., Highlands, N.J.]

Coulson, J. C., and G. Hickling. THE GREY SEALS OF THE FARNE ISLANDS: REPORT FOR THE PERIOD 1 MAY 1963 TO 31 MARCH 1965. Trans. Nat. Hist. Soc. Northumberland 15: 121-139. 1965. [From J. Animal Ecol. 36(2), 1967.] WR 127: 39

Eberhardt, Robert L. THE POPULATION OF GRAY WHALES (ESCHRICHTIUS GIBBOSUS) ON THE SOUTHERN COAST OF PENINSULA BAJA CALIFORNIA, MEXICO. Southern Calif. Acad. Sci. Bull. 65(4): 202-204. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 39
[Lockheed-Calif. Co., San Diego, Calif.]

Eddie, B., W. J. L. Sladen, B. K. Sladen, and K. F. Meyer. SEROLOGIC STUDIES AND ISOLATION OF BEDSONIA AGENTS FROM NORTHERN FUR SEALS ON THE PRIBILOF ISLANDS. Am. J. Epidemiol. 84(2): 405-410. 1966. WR 127: 39
[Univ. Calif. Med. Center, San Francisco.] "Callorhinus ursinus."

Fedoseev, G. A. [DETERMINATION OF THE AGE AND SEXUAL COMPOSITION OF THE POPULATION AND THE STATE OF THE STOCKS OF SEA OF OKHOTSK SEALS.] Zool. Zhur. 44(6): 925-933, illus. 1965. [From Biol. Abstr. 48(7), 1967. In Russian with English summ.] WR 127: 39
[Pacific Ocean Res. Inst. Mar. Fish. Oceanogr., Acad. Sci. USSR, Vladivostok, USSR.]

Fiscus, Clifford H., and Hiroshi Kajimura. PELAGIC FUR SEAL INVESTIGATIONS, 1965. US F&WS, Spec. Sci. Rept.--Fisheries no. 537. v + 42 p., [25] figs. Feb. 1967. WR 127: 39
[Marine Mammal Biol. Lab., Seattle, Wash.] Abstract: Pelagic fur seal research as required by the Interim Convention on Conservation of North Pacific Fur Seals was conducted off Washington (2-24 April) and off California (11 April to 23 June). One hundred forty-seven fur seals (Callorhinus ursinus) were taken off Washington and 269 off California. Off Washington, seals were most numerous near Grays Harbor in mid-April. Off California, seals were concentrated off Monterey from late April to early June and near Cordell Bank west of Pt. Reyes in April and early May. Observation or transect lines extending from 10 to 80 miles offshore were established between Bodega Head and Pt. Sur, Calif., at 20-mile intervals, to study distribution and migration. Seals were most abundant from 30 to 40 miles offshore. Of the 387 female seals taken 44 percent were pregnant; the youngest pregnant females were 5 years old. A squid, Moroteuthis robusta, is reported for the first time as fur seal food. By volume, the principal species of fish eaten by seals off California was Merluccius productus and off Washington was Engraulis mordax.

Golenchenko, A. P. [RINGED SEALS OF THE WHITE, BARENTS, KARSK, AND LAPTEV SEAS.] In: (Problems of the exploitation of the game resources of the White Sea and the inland waters of Kareliay.) Akad. Nauk SSSR (Moscow-Leningrad) 1: 156-160. 1963. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 5I237. Transl. of Russian abstr.] WR 127: 39

Johnson, Murray L., Clifford H. Fiscus, Burton T. Ostenson, and Myron L. Barbour. MARINE MAMMALS. In: (Environment of the Cape Thompson Region, Alaska.) US AEC (Oak Ridge, Tenn.). p. 877-924, illus. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 40
[Univ. Puget Sound, Tacoma, Wash.]

Jonsgard, Age. BIOLOGY OF THE NORTH ATLANTIC FIN WHALE BALAENOPTERA PHYSALUS (L.): TAXONOMY, DISTRIBUTION, MIGRATION AND FOOD. Hvalradets Skr. 49: 5-62, illus. 1966. [From Biol. Abstr. 48(11), 1967.] WR 127: 40

Krylov, V. I. [SEXUAL MATURATION OF PACIFIC WALRUS FEMALES PINNIPEDIA.] Zool. Zhur. 45(6): 919-927, illus. 1966. [From Biol. Abstr. 48(11), 1967. In Russian with English summ.] WR 127: 40
[All-Union Res. Inst. Marine Fish. Mgmt. Oceanogr., Moscow, USSR.]

Ling, John K., David G. Nicholls, and C. D. B. Thomas. IMMOBILIZATION OF SOUTHERN ELEPHANT SEALS WITH SUCCINYLCHOLINE CHLORIDE. J. Wildl. Mgmt. 31(3): 469-479, 4 figs. July 1967. WR 127: 40
[Massey Univ., Palmerston North, New Zealand.] Abstract: Succinylcholine chloride administered to 114 southern elephant seals (Mirounga leonina) by means of an extension syringe immobilized 95 seals, with 19 failures or only partial paralysis. Seals up to 4 m in length and weighing approximately 1,900 kg were immobilized. A working dose rate of 2.5 mg/kg body weight is recommended; dose rates above 3.0 mg/kg could be fatal, but one seal survived a dose rate of 5.0 mg/kg. The syringe, methods of injection, handling procedure after immobilization, and the calculation of dose rates are described. Muscle paralysis follows a definite sequence and culminates in total collapse with or without ensuing apnoea. Recovery proceeds in the reverse order.

Nel, J. A. J. ON THE BEHAVIOUR OF THE CRABEATER SEAL (LOBODON CARCINOPHAGUS HOMBRON JACQUINOT). Zool. Africana 2(1): 91-93. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 40
[Univ. Pretoria, Pretoria, South Africa.]

Newman, Murray A., and Patrick L. McGeer. THE CAPTURE AND CARE OF A KILLER WHALE, ORCINUS ORCA, IN BRITISH COLUMBIA. Zoologica 51(5): 59-69 + 11 figs. on 8 pls. Sept. 1966. WR 127: 40
[Vancouver Public Aquarium, Stanley Park, Vancouver, British Columbia, Canada.]

Pilleri, G. NOTE ON THE BRAIN ANATOMY OF THE HUMPBACK WHALE, MEGAPTERA NOVAENGLIAE. Rev. Suisse Zool. 73(7): 161-165, 2 figs. + 3 pls. Apr. 1966. WR 127: 40
[Brain Anatomy Inst., Waldau/Berne, Switzerland.]

Potelov, V. A. [AGE COMPOSITION OF THE CRESTED SEAL (CYSTOPHORA CRISTATA) AND HARP SEAL (PHOCA GROENLANDICA) IN THE GREENLAND SEA.] In: (Information on fisheries research. The Northern Basin.) (Murmansk) 2: 49-53. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 5I236. Transl. of Russian abstr.] WR 127: 40

Potelov, V. A., and F. A. Seleznev. [THE DISTRIBUTION OF SEALS IN THE AREA OF JAN MAYEN ISLAND AND HYDROMETEOROLOGICAL CONDITIONS DURING THE 1963 SEALING SEASON.] In: (Information on fisheries research. The Northern Basin.) (Murmansk) 2: 45-49. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 5I234. Transl. of Russian abstr.] WR 127: 40

Powell, Bill A. PERIODICITY OF VOCAL ACTIVITY OF CAPTIVE ATLANTIC BOTTLENOSE DOLPHINS: TURSIOPS TRUNCATUS. Southern Calif. Acad. Sci. Bull. 65(4): 237-244, illus. 1966. [From Biol. Abstr. 48(11), 1967.] WR 127: 40
[U.S. Naval Ordnance Test Sta., China Lake, Calif.]

Schevill, William E., and William A. Watkins. SOUND STRUCTURE AND DIRECTIONALITY IN ORCINUS (KILLER WHALE). Zoologica 51(6): 71-76 + 5 figs. on 6 pls. Sept. 1966. WR 127: 41
[Woods Hole Oceanogr. Inst., Woods Hole, Mass.]

Schevill, William E., William A. Watkins, and Carleton Ray. ANALYSIS OF UNDERWATER ODOBENUS CALLS WITH REMARKS ON THE DEVELOPMENT AND FUNCTION OF THE PHARYNGEAL POUCHES. Zoologica 51(10): 103-106 + 5 figs. on 5 pls. + 1 phonograph disc. Nov. 1966. WR 127: 41
[Woods Hole Oceanogr. Inst., Woods Hole, Mass.]

Schusterman, Ronald J. SERIAL DISCRIMINATION-REVERSAL LEARNING WITH AND WITHOUT ERRORS BY THE CALIFORNIA SEA LION. J. Exptl. Anal. Behavior 9(5): 593-600, illus. 1966. [From Biol. Abstr. 48(2), 1967.] WR 127: 41
[Stanford Res. Inst., Menlo Park, Calif.]

Simpson, Elizabeth. SEAL HUNTING IN THE GULF OF ST LAWRENCE. Nature 214 (5094): 1274. 17 June 1967. WR 127: 41
[Univ. Cambridge, Cambridge, England.] The prescribed method of killing newly born harp seal (Pagophilus groenlandicus) is hitting the animal on the forehead with a wooden club. Post-mortem examination of 154 seals revealed that 36% of the total examined did not have fractured crania. The presence of an unfractured skull was taken as evidence of doubt as to the state of consciousness of the animal before skinning. These post-mortem findings suggest that a large percentage of the hunted animals die in a manner which is of doubtful humanity.

Slijper, E. O., W. L. Van Utrecht, and C. Naaktgeboren. ERGEBNISSE DER WALFORSCHUNG AN HAND VON SCHIFFSBEOBACHTUNGEN. [RESULTS OF WHALE RESEARCH ON THE BASIS OF OBSERVATION FROM SHIPS.] Umschau Wiss. Tech. 65(24): 774-779, illus. 1965. [From Biol. Abstr. 48(7), 1967. In German.] WR 127: 41
[Univ. Amsterdam, Amsterdam, Netherlands.]

MAMMALS--OTHER GROUPS

Gade, Daniel W. THE GUINEA PIG IN ANDEAN FOLK CULTURE. Geographical Rev. 57(2): 213-224, 4 figs. Apr. 1967. WR 127: 41
[Univ. Vt., Burlington.] Description and origin, domestication and early history, the guinea pig in the Inca period, present distribution and domestication, guinea pigs as carriers of vermin and disease and the use of guinea pigs in the Andes today are the major topics.

George, Graeme G. NOTES ON A NEW GUINEA QUOLL. Victorian Nat. 81(9): 254-256. 1965. [From Biol. Abstr. 48(10), 1967.] WR 127: 41
Comments are presented on the behavior and characteristics of Satanellus albopunctatus, a little-known mammal from New Guinea, after 3 weeks of observation in captivity.

Gilmore, D. P. FOODS OF THE AUSTRALIAN OPOSSUM (TRICHOSURUS VULPECULA KERR) ON BANKS PENINSULA, CANTERBURY, AND A COMPARISON WITH OTHER SELECTED AREAS. New Zealand J. Sci. 10(1): 235-279, 13 figs. Mar. 1967. WR 127: 41
[Univ. Canterbury, Christchurch, New Zealand.]

Griffiths, M., and K. G. Simpson. A SEASONAL FEEDING HABIT OF SPINY ANTEATERS. CSIRO Wildl. Res. 11(2): 137-143, 5 figs. Dec. 1966. WR 127: 41
[CSIRO, Canberra, Australia.]

McIntosh, D. L. THE DIGESTIBILITY OF TWO ROUGHAGES AND THE RATES OF PASSAGE OF THEIR RESIDUES BY THE RED KANGAROO, MEGALEIA RUFA (DESMAREST), AND THE MERINO SHEEP. CSIRO Wildl. Res. 11(2): 125-135, 2 figs. + 2 pls. Dec. 1966. WR 127: 41
[CSIRO, Canberra, Australia.]

Newsome, A. E. THE INFLUENCE OF FOOD ON BREEDING IN THE RED KANGAROO IN CENTRAL AUSTRALIA. CSIRO Wildl. Res. 11(2): 187-196, 4 figs. Dec. 1966. WR 127: 42
[CSIRO, Canberra, Australia.]

Prusskii, V. K. [RE-ESTABLISHMENT OF THE WILD HORSES CALLED TARPANS IN POLAND.] Zool. Zhur. 44(9): 1382-1395, illus. 1965. [From Biol. Abstr. 48 (8), 1967. In Russian with English summ.] WR 127: 42
[Acad. Sci. Poland, Warsaw, Poland.]

BIRDS--GENERAL

Cody, M. L. A GENERAL THEORY OF CLUTCH SIZE. Evolution 20: 174-184. 1966. [From Auk 84(3), 1967.] WR 127: 42
The energy allocated to activities related to clutch size, predator avoidance, and competition, by various species, is considered in formulating a general theory of clutch size. In general, it is advantageous for birds inhabiting stable environments, where the population is at or near the carrying capacity, to devote more time and energy to predator avoidance and competition, at a sacrifice of reproductive rate. In unstable environments populations are usually below the carrying capacity, and birds which increase their clutch size will be favored. The model also accounts for increased clutch size with increased latitude.

Morel, Marie-Yvonne. LES OISEAUX TROPICAUX ELEVENT-ILS AUTANT DE JEUNES QU'ILS PEUVENT EN NOURRIR? LE CAS DE LAGONOSTICTA SENEGALA. [DO TROPICAL BIRDS RAISE AS MANY YOUNG AS THEY CAN FEED? THE CASE OF LAGONOSTICTA SENEGALA.] Terre & Vie 1967(1): 77-82. Jan.-Mar. 1967. In French with English summ. WR 127: 42
Summary: 316 broods of Lagonosticta senegala (240 normal ones and 76 parasitized by the weaver Hypochera chalybeata) have been studied near Richard Toll, Sénégal, and followed up to the time where the nestlings became independent. The Senegal fire finch parents are able to rear easily a mixed brood whose size and final weight are larger than in normal, parasite-free ones. At least in this species of tropical Passerine, clutch size is obviously limited neither by the food resources of the habitat nor by the parents' capacity in bringing back sufficient food to the nest. A similar situation has already been described by Mrs. Nice (1937) in song sparrows parasitized by cowbirds.

Nielsen, Bent Pors, and Hans-Jørgen Speyer. SOME OBSERVATIONS OF BIRDS IN NORTHERN IRAN. Dansk Ornithol. Forenings Tidsskr. 61(1): 30-39, 3 figs. Mar. 1967. In English with Danish summ. WR 127: 42
[Hans Knudsens Plads 1, Copenhagen, Denmark.] Based upon observations made during 1959-1964.

Nisbet, I. C. T. MIGRATION AND MOULT IN PALLAS'S GRASSHOPPER WARBLER. Bird Study 14(2): 96-103, 1 fig. June 1967. WR 127: 42
"Locustella certhiola."

BIRDS--TECHNIQUES

Dyck, Jan. DETERMINATION OF PLUMAGE COLOURS, FEATHER PIGMENTS AND -STRUCTURES BY MEANS OF REFLECTION SPECTROPHOTOMETRY. Dansk Ornithol. Forenings Tidsskr. 60(2): 49-76, 12 figs. June 1966. In English with Danish summ. WR 127: 42
[Forsvarets Forsknigsgrad, Østerbrogades Kaserne, Copenhagen, Denmark.]

Dyer, M. I. PHOTO-ELECTRIC CELL TECHNIQUE FOR ANALYZING RADAR FILM. J. Wildl. Mgmt. 31(3): 484-491, 6 figs. July 1967. WR 127: 43

[Univ. Guelph, Guelph, Ontario, Canada.] Abstract: A simple technique for analyzing scan-by-scan movie film of bird movement observed on radar is described. The method is based on a change of film density caused by bird targets. Since the targets on the projected film image varied in time, the light-level changes could be measured with photo-electric cells. With the establishment of a baseline, all fluctuations in the readout of the cells thus were related to bird flocks. The value of such an approach has been shown for local (up to 15 miles) bird movement in an area where the density of the background targets precluded accurate observation of either the radar presentation or the visual analysis of the scan-by-scan photographs. Relative densities of red-winged blackbird (Agelaius phoeniceus) movement in an area of concentration in South Dakota are shown for late summer and early autumn. Suggestions for modification of the data-collecting system are presented.

Greenlaw, Jon S., and Jeff Swinebroad. A METHOD FOR CONSTRUCTING AND ERECTING AERIAL-NETS IN A FOREST. Bird-Banding 38(2): 114-119, 1 fig. Apr. 1967. WR 127: 43

[Rutgers Univ., New Brunswick, N.J.] The long horizontal axis of a ground net is made the vertical axis of an aerial net. Positions of shelf strings are changed from the length to the width of the net.--Courtesy/ Paul A. Stewart.

Highhouse, W. L. "OPERATION BLUEBIRD" WARREN COUNTY, PENNSYLVANIA / EIGHTH REPORT -- 1964. Kingbird 14(4): 210-212. Oct. 1964. WR 127: 43

[8 Fourth St., Warren, Pa.] Of 150 nesting boxes, 97 contained first nestings of bluebirds, and 80 contained second nestings. Only 2 of the 150 boxes lacked bird occupants.

McNeil, Raymond. MODIFICATIONS OF THE USE OF THE JAPANESE MIST NETS. Bird-Banding 38(2): 149-151. Apr. 1967. WR 127: 43

[Univ. Montreal, Montreal, Canada.] Replacement of shelf strings with black, plastic-covered stove pipe wire is recommended when nets are used for netting bats or for birds in tropical forests.--Courtesy/ Paul A. Stewart.

Smith, Neal Griffith. CAPTURING SEABIRDS WITH AVERTIN. J. Wildl. Mgmt. 31(3): 479-483, 1 fig. July 1967. WR 127: 43

[Smithsonian Tropical Res. Inst., Balboa, Canal Zone.] Abstract: The narcotizing agent Avertin (trimomoethanol) proved an effective aid in capturing large numbers of gulls, cormorants, boobies, and frigatebirds. Avertin should be most effective for species that can be attracted in large numbers to a baited area and will eat pieces of bait capable of concealing glycerine capsules containing the drug. By giving Avertin in lethal doses (≤ 2.2 g/kg of body weight), and then quickly flushing out the excess drug from the stupefied birds, individual variation in susceptibility became unimportant, narcosis was rapid, recovery times were acceptable, and there were no adverse aftereffects. The stomach irrigation process should be perfected before wide-scale captures are attempted. Avertin is not recommended for studies where no mortality can be tolerated.

BIRDS--MORPHOLOGY & PHYSIOLOGY

Dusi, Julian L. THE IDENTIFICATION CHARACTERS OF NESTS, EGGS AND NESTLINGS OF SOME HERONS, IBISES AND ANHINGAS. Ala. Birdlife 14(2-3): 2-8. Sept. 1966. WR 127: 43

[Auburn Univ., Auburn, Ala.] Instructions particularly useful to the bird bander for identifying nests, eggs, and young of the little blue heron (Florida caerulea), cattle egret (Bubulcus ibis), snowy egret (Leucophoyx thula), common egret (Casmerodius alba), black-crowned night heron (Nycticorax nycticorax), yellow-crowned night heron (Nyctanassa violacea), green heron (Butorides virescens), white ibis (Eudocimus albus), and anhinga (Anhinga anhinga) are included.--Courtesy/ Paul A. Stewart.

Gwinner, E. ÜBER BAU UND FUNKTION EINER NICKHAUTSTRUCKTUR DER ELSTER (PICA PICA). [ON THE FORM AND FUNCTION OF A NICTITATING MEMBRANE OF THE MAGPIE (PICA PICA).] J. Ornithol. 107: 323-325. 1966. [From Auk 84(3), 1967. In German.] WR 127: 44

A yellow spot on the nictitating membrane is used in courtship and agonistic displays.

Raveling, Dennis G., and Eugene A. LeFebvre. ENERGY METABOLISM AND THEORETICAL FLIGHT RANGE OF BIRDS. Bird-Banding 38(2): 97-113, 2 figs. Apr. 1967. WR 127: 44

[Southern Ill. Univ., Carbondale.] Proposes that the energy expenditure in sustained flight can be estimated at twelve times the standard metabolism rate.--Courtesy/ Paul A. Stewart.

BIRDS--BEHAVIOR & MIGRATION

Bergamann, H.-H. ÜBER DES GÄHNEN BEI VÖGELN. [ON YAWNING IN BIRDS.] Vogelwelt 87: 134-138. 1966. [From Ibis 109(3), 1967. In German.] WR 127: 44

A list of species for which gaping movements termed "yawning" (defined in the text) have been recorded.

Brown, Jerram L. THE INTEGRATION OF AGONISTIC BEHAVIOR IN THE STELLER'S JAY, CYANOCITTA STELLERI (GMELIN). Univ. Calif. Publ. Zool. 60(4): 223-328, 13 figs. 1964. $2.00. WR 127: 44

The coordinating role of the central nervous system was hypothesized by correlating various concurrent behavior patterns. The intensity of resistance of a bird attacked by a dominant jay was, for example, found to be directly correlated with the angle of the crest of the dominant jay. The angle of the crest of the dominant jay was thus related to physiological parameters associated with increased activity, such as heart rate, blood pressure and localized vasometer effects in the attacked jay.

Christensen, Steen. OBSERVATIONER AF FUGLE OG NOTER OM FUGLETRAEK PÅ CYPERN 1964-65. [OBSERVATIONS ON BIRDS AND NOTES ON BIRD MIGRATION AT CYPRUS 1964-65.] Dansk Ornithol. Forenings Tidsskr. 61(1): 40-55, 5 figs. Mar. 1967. In Danish with English summ. WR 127: 44

[Filskovvej 5, Kastrup, Denmark.]

Collman, J. R., and J. P. Croxall. SPRING MIGRATION AT THE BOSPHORUS. Ibis 109(3): 359-372, 2 figs. July 1967. WR 127: 44

[Queen's Coll., Oxford, England.] Summary: During observations made at the Bosphorus from 23 March to 6 April 1965, 3473 raptors were seen; the majority were spotted/lesser spotted eagles and honey buzzards. The migration of the main species is considered in some detail and attempts are made to correlate this with the prevailing weather. Comparisons are made with the records of observers both in spring and autumn at the Bosphorus and in spring at Gibraltar. Honey buzzards pass in spring a month later at Gibraltar than at the Bosphorus. It is suggested that this is related to the timing of spring in the breeding areas to which these birds are returning. Notes on the observations of passerine movements and a night migration of black storks are also included.

Coutlee, Ellen Lorraine. THE COMPARATIVE BEHAVIOR OF LAWRENCE'S AND LESSER GOLDFINCHES. Ph.D. thesis, Univ. Calif. (Los Angeles). 125 p. 1966. [From Dissertation Abstr. 27(10B), 1967.] WR 127: 44

Davis, Peter. MIGRATION-SEASONS OF THE SYLVIA WARBLERS AT BRITISH BIRD OBSERVATORIES. Bird Study 14(2): 65-95, 5 figs. June 1967. WR 127: 44

Summary: The migration-seasons of five warblers of the genus Sylvia at seven British Bird Observatories are defined; the records used cover at least ten years of recording at each station, and the method allows for occasional breaks in observations. The breeding distribution and the pattern of migration

of the European populations (as revealed by ringing recoveries) are also described, and related to the pattern at these British stations. The conclusions about the nature of the movements of each species at each station are discussed at the end of each section.

Dennis, John V. FALL DEPARTURE OF THE YELLOW-BREASTED CHAT (ICTERIA VIRENS) IN EASTERN NORTH AMERICA. Bird-Banding 38(2): 130-135. Apr. 1967. WR 127: 45
[Box 389, Leesburg, Va.] Yellow-breasted chats leave their breeding and hatching places in July. Many of them travel northward.--Courtesy/ Paul A. Stewart.

Dexter, Ralph W. NESTING BEHAVIOR OF A CRIPPLED CHIMNEY SWIFT. Bird-Banding 38(2): 147-149. Apr. 1967. WR 127: 45
[Kent State Univ., Kent, Ohio.] With detailed observations of a crippled chimney swift (Chaetura pelagica) unsuccessfully attempting to nest in two seasons. A nesting attempt in a third season was successful. The right toes of this male swift were missing.--Courtesy/ Paul A. Stewart.

Driver, P. M. NOTES ON THE CLICKING OF AVIAN EGG-YOUNG, WITH COMMENTS ON ITS MECHANISM AND FUNCTION. Ibis 109(3): 434-437. July 1967. WR 127: 45
[Univ. Mich., Ann Arbor.]

Emlen, Stephen Thompson. EXPERIMENTAL ANALYSIS OF CELESTIAL ORIENTATION IN A NOCTURNALLY MIGRATING BIRD. Ph.D. thesis, Univ. Mich. 203 p. 1966. [From Dissertation Abstr. 27(9B), 1967.] WR 127: 45
During the fall of 1964 and spring and fall of 1965, the migratory orientational abilities of 24 captive indigo buntings, Passerina cyanea, were determined by placing them in various experimental situations and recording the directional tendencies of their Zugunruhe behavior. When placed outdoors under the natural night sky, 69 percent of the individuals consistently oriented in the normal migration direction (south in fall and north in the spring), while 17 percent of the birds displayed no directional preferences whatsoever. Preliminary experiments in which stellar configurations or portions of the planetarium sky were selectively blocked from view indicate that the area within 35° of the North Star is extremely important to the orientation process. More detailed conclusions await further experimentation.

Erard, C., and L. Yeatman. COUP D'OEIL SUR LES MIGRATIONS DES SYLVIIDÉS D'APRES LES RÉSULTATS DU BAGUAGE EN FRANCE ET AU MAGHREB. [SUMMARY OF THE MIGRATION OF WARBLERS BASED ON BANDING RESULTS IN FRANCE AND MOROCCO.] Alauda 34: 1-38. 1966. [From Ibis 109(3), 1967. In French.] WR 127: 45

Erskine, A. J. NEST-SITE COMPETITION BETWEEN BUFFLEHEAD, MOUNTAIN BLUEBIRD AND TREE SWALLOW. Canadian Field-Nat. 78(3): 202-203. July-Sept. 1964. WR 127: 45
[Canadian Wildl. Serv., Sackville, New Brunswick.]

Evans, P. R. AN APPROACH TO THE ANALYSIS OF VISIBLE MIGRATION AND A COMPARISON WITH RADAR OBSERVATIONS. Ardea 54: 14-44. 1966. [From Ibis 109 (3), 1967.] WR 127: 45

Forbes-Watson, A. D. OBSERVATIONS AT A NEST OF THE CUCKOO-ROLLER LEPTOSOMUS DISCOLOR. Ibis 109(3): 425-430. July 1967. WR 127: 45
[Natl. Museum, Nairobi, Kenya.]

Gashwiler, Jay S., and A. Lorin Ward. WESTERN REDCEDAR SEED, A FOOD OF PINE SISKINS. Murrelet 47(3): 73-75. Sept.-Dec. 1966. WR 127: 45
[U.S. Bur. Sport Fisheries & Wildl., Corvallis, Oreg.]

Goodwin, Derek. NOTES ON BEHAVIOUR OF SOME AUSTRALIAN BIRDS. Emu 66(3): 237-251, 9 figs. Feb. 1967. WR 127: 45
[British Museum (Nat. Hist.), London, England.]

Heyn, Dieter. BEOBACHTUNGEN AM BRUTKESSEL DES EISVOGELS (ALCEDO ATTHIS). [OBSERVATIONS ON THE NEST BURROWS OF KINGFISHERS (ALCEDO ATTHIS).] Ornithol. Mitteil. 16(6/7): 121-122, 2 figs. June-July 1964. In German. WR 127: 46

Hosono, T. [A STUDY OF THE LIFE HISTORY OF BLUE MAGPIE (I). 1. BREEDING BIOLOGY.] Misc. Repts. Yamashina's Inst. Ornithol. Zool. 4: 327-347. 1966. [From Auk 84(3), 1967. In Japanese with English summ.] WR 127: 46

Il'enko, A. I. [COMPETITION FOR NESTING SITES IN A POPULATION OF HOUSE SPARROWS (PASSER DOMESTICUS).] Zool. Zhur. 44(12): 1874-1878, illus. 1965. [From Biol. Abstr. 48(7), 1967. In Russian with English summ.] WR 127: 46
[Moscow State Univ., Moscow, USSR.]

Klataske, Ronald D. WESTERN KINGBIRD NESTING IN THE NEBRASKA SANDHILLS. Nebr. Bird Review 34(2). Apr. 1966. WR 127: 46
[Univ. Maine, Orono.] The nesting activities of 10 western kingbird (Tyrannus verticalis) nesting attempts were observed. Eight of the nests produced young -- a total of 33. From three to five young were produced per nest. The eggs in all nests hatched within a five day period. No renesting was observed.--Auth. abstr.

Konishi, M. EFFECTS OF DEAFENING ON SONG DEVELOPMENT IN AMERICAN ROBINS AND BLACK-HEADED GROSBEAKS. Z. Tierpsychol. 22: 584-599. 1965. [From Auk 84(3), 1967.] WR 127: 46

Konishi, M. THE ROLE OF AUDITORY FEEDBACK IN THE CONTROL OF VOCALIZATION IN THE WHITE-CROWNED SPARROW. Z. Tierpsychol. 22: 770-783. 1965. [From Auk 84(3), 1967.] WR 127: 46

Kuroda, N. [ON THE ORIGIN OF RAPTOR-PATTERN AND HAWK-MIMICRY OF CUCKOOS.] Misc. Repts. Yamashina's Inst. Ornithol. Zool. 4: 384-387. 1966. [From Auk 84(3), 1967. In English with Japanese summ.] WR 127: 46

Loftin, Horace, George I. Child, and Salvatore Bongiorno. RETURNS IN 1965-1966 OF NORTH AMERICAN MIGRANT BIRDS BANDED IN PANAMA. Bird-Banding 38(2): 151-152. Apr. 1967. WR 127: 46
[Box 930, Albrook AFB, Canal Zone.] With reports of returns to the same wintering areas by the following birds: yellow-green vireo (Vireo flavoviridis), Tennessee warbler (Vermivora peregrina), chestnut-sided warbler (Dendroica pensylvanica), ovenbird (Seiurus aurocapillus), Kentucky warbler (Oporornis formosus), yellow-breasted chat (Icteria virens), American redstart (Setophaga ruticilla), and indigo bunting (Passerina cyanea).--Courtesy/ Paul A. Stewart.

Lohrl, H. EIZAHL UND BRUTERFOLG DER HAUBENMEISE PARUS CRISTATUS UND DER SUMPFMEISE P. PALUSTRIS IN SÜDWESTDEUTSCHLAND. [CLUTCH SIZE AND FLEDGING SUCCESS OF THE CRESTED TIT (PARUS CRISTATUS) AND THE MARSH TIT (PARUS PALUSTRIS) IN SOUTHWEST GERMANY.] Vogelwelt 87: 15-21. 1966. [From Ibis 109(3), 1967. In German.] WR 127: 46

Mal'Chevskii, A. S. [SOUND MIMICRY IN BIRDS.] In: (Complex forms of behavior.) Nauka (Moscow-Leningrad). p. 139-144. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I466. Transl. of Russian abstr.] WR 127: 46

Merkel, Friedrich Wilhelm, Hans Georg Fromme, and Wolfgang Wiltschko. NICHT-VISUELLES ORIENTIERUNGSVERMÖGEN BEI NACHTLICH ZUGUNRUHIGEN ROTKEHLCHEN. [NONVISUAL ORIENTATION CAPABILITY DURING NIGHTLY MIGRATION RESTLESSNESS IN THE EUROPEAN ROBIN.] Vogelwarte 22(3/4): 168-176. 1964. [From Biol. Abstr. 48(2), 1967. In German with English summ.] WR 127: 46
[Univ. Frankfurt, Frankfurt/Main, West Germany.]

Razack, Abdur, and R. M. Naik. STUDIES ON THE HOUSE SWIFT, APUS AFFINIS (G. E. GRAY). 3. AWAKENING AND ROOSTING DURING THE NONBREEDING PERIOD. Pavo Indian J. Ornithol. 3(1): 55-71, illus. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 47
[M. S. Univ. Baroda, Baroda, Gujarat, India.]

Sick, Helmut. SONS EMITIDOS PELAS AVES INDEPENDENTEMENTE DO ORGÃO VOCAL: CASO DE CONOPOPHAGA LINEATA (WIED). [SOUND PRODUCTION OF BIRDS OTHER THAN THROUGH VOCAL ORGANS: THE CASE OF CONOPOPHAGA LINEATA.] An. Acad. Brasil Cienc. 37(1): 131-140, illus. 1965. [From Biol. Abstr. 48(6), 1967. In Portuguese.] WR 127: 47
[Mus. Nac., Rio de Janeiro, Brazil.]

Sparks, J. H. CONTACT BEHAVIOUR IN THE CUBAN FINCH TIARIS CANORA (GMELIN). Bull. British Ornithol. Club 84: 164-169. 1964. [From Ibis 109(3), 1967.] WR 127: 47

Steiner, Hans. ATAVISMEN BEI ARTBASTARDEN UND IHRE BEDEUTUNG ZUR FESTSTELLUNG VON VERWANDTSCHAFTSBEZIEHUNGEN. KREUZUNGSERGEBNISSE INNERHALB DER SINGVOGELFAMILIE DER SPERMESTIDAE. [ATAVISM AMONG HYBRIDS AND THEIR IMPORTANCE IN THE ESTABLISHMENT OF RELATIONSHIP. THE RESULTS OF CROSSES BETWEEN SONGBIRDS OF THE FAMILY SPERMESTIDAE.] Rev. Suisse Zool. 73(17): 321-337, 3 figs. May 1966. In German with English and French summ. WR 127: 47

Thielcke, G. GESANGSGEOGRAPHISCHE VARIATION DES GARTENBAUMLÄUFERS (CERTHIA BRACHYDACTYLA) IN HINBLICK AUF DAS ARTBILDUNGSPROBLEM. [GEOGRAPHIC VARIATION IN SONG OF THE SHORT-TOED TREE CREEPER.] Z. Tierpsychol. 22: 542-566. 1965. [From Auk 84(3), 1967. In German.] WR 127: 47

Thielcke, G. RITUALIZED DISTINCTIVENESS OF SONG IN CLOSELY RELATED SYMPATRIC SPECIES. Philosophical Trans. Royal Soc. B 251: 493-497. 1966. [From Ibis 109(3), 1967.] WR 127: 47

BIRDS--MANUALS, FAUNAS, COMMUNITIES

Bochenski, Zygmunt, and Wincenty Harmata. PTAKI POLUDNIOWEGO KRANCA JURY KRAKOWSKO-WIELUNSKIEJ. [THE BIRDS OF THE SOUTHERN BORDER OF THE KRAKOW-WIELUN JURASSIC RIDGE.] Acta Zool. Cracov. 7(15): 483-574. 1962. [From Biol. Abstr. 48(4), 1967. In Polish with English and Russian summ.] WR 127: 47

Cheng, Tso-Hsin. ON CHINESE AVIFAUNA AND RECENT ORNITHOLOGICAL WORK IN CHINA. Ornithol. Mitteil. 15(11): 239-240. Nov. 1963. In English with German summ. WR 127: 47
[Inst. Zool. Acad. Sinica, Peking, China.] About 1140 spp. of birds and an additional 1,000 sspp. have been recorded in China. Ecological and food habits studies are focussed on determining which species are of economic importance. Studies are currently being conducted on animal distribution in an effort to determine zoological regions in China.

Chessex, Ch., and J. P. Ribaut. EVOLUTION D'UNE AVIFAUNE SUBURBAINE ET TEST D'UNE MÉTHODE DE RECENSEMENT. [EVOLUTION OF A SUBURBAN AVIFAUNA AND A TEST OF THE CENSUS METHOD.] Nos Oiseaux 28: 193-211. 1966. [From Ibis 109 (3), 1967. In French.] WR 127: 47
Census of a park-like cemetery, and changes after 11 years. High population density (178 pairs/10 ha.) in only 18 species and stability of the fauna's composition in spite of progressive building around the cemetery. The census method's validity was tested by the authors working separately, and there was good agreement between their results. Discussion.

Craine, G. BREEDING BIRDS ON THE CALF OF MAN (1962 AND 1963). Peregrine 4: 145-147. 1965. [From J. Animal Ecol. 36(2), 1967.] WR 127: 48
Systematic list of the island's birds.

Dement'ev, G. P., N. A. Gladkov, E. S. Ptushenko, E. P. Spangenberg, and A. M. Sudilovskaya. BIRDS OF THE SOVIET UNION. VOLUME I. Published for the National Science Foundation and the Smithsonian Institution by the Israel Program for Scientific Translations (Jerusalem). OTS 64-11027. xix + 704 p., 157 figs., 111 maps. 1966. Russian original published by Gosudarstvennoe Izdat. "Sovetskaya Nauka" (Moscow) in 1951. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $10.28.] WR 127: 48
Species accounts of Pelecaniformes, Falconiformes, Strigiformes, Cuculiformes, Caprimulgiformes, Coraciiformes, Upupiformes, Piciformes, and Micropodiformes. This is the first volume of a six-volume work covering the approximately 700 species of birds recorded for the USSR.

Evans, P. R., and W. U. Flower. THE BIRDS OF THE SMALL ISLES. Scottish Birds 4(6): 404-445, 8 figs. + 4 pls. Summer 1967. WR 127: 48
In addition to an annotated list of birds found on the isles of Muck, Eigg, Rhum and Canna [Inner Hebrides] there is a section on the mammals of these islands.

Fog, Jørgen. BIRD-MARKINGS BY THE GAME BIOLOGY STATION 1950-65. Dansk Ornithol. Forenings Tidsskr. 60(2): 84-86. June 1966. In English with Danish summ. WR 127: 48
[Vildtbiol. Sta., Kalø, Denmark.]

Ford, Julian. AQUATIC BIRDS OF HAMELIN POOL LAKE, WESTERN AUSTRALIA. Western Australia Nat. 10(3): 71-74. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 48
A list of 38 spp.

Frost, Herbert H., and Joseph R. Murphy. OBSERVATIONS (RECORDS) ON BIRDS ALONG THE COLORADO IN THE VICINITY OF MOAB, UTAH. Proc. Utah Acad. Sci. Arts Lett. 42(2): 180-185. 1966. [From Biol. Abstr. 48(6), 1967.] WR 127: 48
[Brigham Young Univ., Provo, Utah.]

Ganya, I. M. [A QUALITATIVE CHARACTERIZATION OF THE ORCHARD ORNITHOFAUNA OF THE MOLDAVIAN DNESTER REGION.] Ornithologiya 7: 290-308. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., no. 3I349. Transl. of Russian abstr.] WR 127: 48

Garland, I. F. LIST OF BIRDS ON THE FARM "TWINSTREAMS", MTUNZINI DISTRICT, ZULULAND. South African Avifauna Ser., Percy Fitzpatrick Inst. African Ornithol. no. 46. 18 p. 1967. Price 20¢. WR 127: 48

Gill, Frank B. BIRDS OF RODRIGUEZ ISLAND (INDIAN OCEAN). Ibis 109(3): 383-390. July 1967. WR 127: 48
[Univ. Mich., Ann Arbor.] Summary: A description is given of Rodriguez, the most remote of the Mascarene Islands, and of its avifauna, with special reference to the two surviving endemic land-birds.

Gooders, J. THE BIRDS OF CLAPHAM AND WANDSWORTH COMMONS. London Bird Rep. 29: 73-88. 1965. [From J. Animal Ecol. 36(2), 1967.] WR 127: 48
The breeding and winter populations on the two commons and in recent and former years are compared. Recent records of nocturnal and diurnal immigrants and of irregular visitors are also included.

Hall, A. B. THE BREEDING BIRDS OF AN EAST GREENLAND VALLEY, 1962. Dansk Ornithol. Forenings Tidsskr. 60(4): 175-185, 4 figs. Dec. 1966. In English with Danish summ. WR 127: 48
[Craiglearan Moniaive, Thornhill, Dunfriesshire, Scotland.]

Hall, A. B., and R. N. Waddingham. THE BREEDING BIRDS OF ØRSTEDS DAL, EAST GREENLAND, 1963. Dansk Ornithol. Forenings Tidsskr. 60(4): 186-197, 6 figs. Dec. 1966. In English with Danish summ. WR 127: 49
[Craiglearan Moniaive, Thornhill, Dunfriesshire, Scotland.]

Harris, Stanley W. SUMMER BIRDS OF THE LOWER KASHUNUK RIVER, YUKON-KUSKOKWIM DELTA, ALASKA. Murrelet 47(3): 57-65. Sept.-Dec. 1966. WR 127: 49
[Humboldt State Coll., Arcata, Calif.]

Henss, Michael. ORNITHOLOGISCHE NOTIZEN AUS MAROKKO. [ORNITHOLOGICAL NOTES FROM MOROCCO.] Ornithol. Mitteil. 16(11): 226-229. Nov. 1964. In German. WR 127: 49
[Fallersleber Strasse 29, Braunschweig, Germany.]

Herrn, C.-P. NEUE SOMMERBEOBACHTUNGEN IN ANATOLIEN, IN KILIKEN UND IM HATAY. [NEW SUMMER OBSERVATIONS (OF BIRDS) IN ANATOLIA, IN KILIKIN AND IN HATAY.] Vogelwarte 23: 305-308. 1966. [From Auk 84(3), 1967. In German.] WR 127: 49

Hore-Lacy, I. BIRDS OF THE YOU YANGS, VICTORIA: HABITAT SELECTION AND STATUS. Emu 64(1): 28-32, 1 fig. Oct. 1964. WR 127: 49
[Inter-Varsity Fellowship, 511 Kent Street, Sydney, Australia.] Of the 136 species, 74 are designated resident, 15 nomadic, 16 summer visitors, 4 winter visitors, and 27 are considered accidental.

Jensen, Freddy. FUGLELIVET PÅ BOGNAES. [THE BIRDLIFE OF BOGNAES.] Dansk Ornithol. Forenings Tidsskr. 60(3): 128-141, 3 figs. Sept. 1966. In Danish with English summ. WR 127: 49
[Fortvej 156, Rødovre, Vanløse, Denmark.]

Jepsen, Palle Uhd. FUGLELIVET VED NISSUM FJORD. [BIRDLIFE IN NISSUM FJORD.] Dansk Ornithol. Forenings Tidsskr. 61(1): 1-29, 18 figs. Mar. 1967. In Danish with English summ. WR 127: 49
[Viltdbiol. Sta., Kalø, Denmark.]

Kazhewnikava, R. K. [COMPARATIVE DESCRIPTION OF THE BIRD POPULATION OF BIRCH AND OTHER SMALL-LEAVED STANDS IN NORTHERN AND CENTRAL BELORUSSIA.] Vyestsi Akad. Navuk. Byelaruskai SSR Syeryya Biyalahichnykh Navuk 3: 99-103. 1965. [From Biol. Abstr. 48(5), 1967. In Belorussian with Russian summ.] WR 127: 49

Kipp, F. A. VOM FRÜHJAHRDURCHZUG AUF DER INSEL SAMOTHRAKE. [ON SPRING TRANSIENTS ON THE ISLAND OF SAMOTHRACE.] Vogelwarte 23: 283-285. 1966. [From Auk 84(3), 1967. In German.] WR 127: 49

Kuleshova, L. V. [BIRD TYPES OF THE LOWER VOLGA AND ADJACENT AREAS OF THE NORTH CASPIAN.] Ornitologiya 7: 235-243. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 3I320. Transl. of Russian abstr.] WR 127: 49

Kumerloeve, H. LISTE SYSTÉMATIQUE REVISÉE DES ESPÈCES D'OISEAUX DE TURQUIE. [A REVISED SYSTEMATIC LIST OF THE BIRD SPECIES OF TURKEY.] Alauda 34: 165-186. 1966. [From Ibis 109(3), 1967. In French.] WR 127: 49
This abbreviated list deals with 402 species including 262 certain or probable breeders, and 18 of doubtful status. An addendum mentions 59 endangered species.

Kurata, A. [A BIRD SURVEY OF IRIOMOTE I., YAEYAMA GROUP, S. RYU KYUS.] Misc. Repts. Yamashina's Inst. Ornithol. Zool. 4: 358-370. 1966. [From Auk 84 (3), 1967. In Japanese with English summ.] WR 127: 49

Lachner, R., A. Thielemann, and H. Körholz. BEITRAG ZUR KENNTNIS DER VÖGEL VON RÖST (LOFOTEN). [CONTRIBUTION TO THE KNOWLEDGE OF THE BIRDS OF RÖST (LOFOTEN ISLANDS).] Ornithol. Mitteil. 16(11): 223-226, illus. Nov. 1964. In German. WR 127: 50
Annotated list of species of this area off NW coast of Norway in the Norwegian Sea.

Mathiasson, Sven. HÄCKFÅGLAR PÅ ÖN DYNAN I SYDVÄSTRA SKÅNE, EN 11-ÅRIG OBSERVATIONSSERIE. [BIRDS BREEDING ON THE ISLAND DYNAN IN SOUTHWESTERN SCANIA, AN 11-YEAR STUDY.] Vår Fågelvärld 25: 253-268. 1966. [From Bird-Banding 38 (2), 1967. In Swedish with English summ.] WR 127: 50

Medway, Lord. OBSERVATIONS ON THE FAUNA OF PULAU TIOMAN AND PULAU TULAI (MALAYA): 4. THE BIRDS. Nat. Mus. (Singapore) Bull. 34: 39-52. 1966. [From Biol. Abstr. 48(6), 1967.] WR 127: 50
Records of 53 spp. of birds (excluding oceanic birds other than the frigates) from P. Tioman are discussed; and 21 spp. are recorded from Tulai.

Ogasawara, K. [BIRD SURVEY OF MT. KURIKOMA AND ITS SURROUNDING AREA, NORTHERN HONSHU, WITH ECOLOGICAL NOTES.] Misc. Repts. Yamashina's Inst. Ornithol. Zool. 4: 371-377. 1966. [From Auk 84(3), 1967. In Japanese with English summ.] WR 127: 50

Parslow, J. L. F. CHANGES IN STATUS AMONG BREEDING BIRDS IN BRITAIN AND IRELAND. (PART 3). British Birds 60(5): 177-202. May 1967. WR 127: 50
Skuas, gulls and terns through the owls. See WR 125: 40, WR 126: 39, and WR 127 [below] for other parts of this paper.

Parslow, J. L. F. CHANGES IN STATUS AMONG BREEDING BIRDS IN BRITAIN AND IRELAND. (PART 4). British Birds 60(7): 261-285. July 1967. WR 127: 50
Another owl through the bearded tit, Timaliinae (Muscicapidae).

Perdeck, A. C., and B. J. Speek. RINGVERSLAG VAN HET VOGELTREKSTATION. NO. 48 (1963). [BANDING RESULTS FROM THE MIGRATORY BIRD STATION. NO. 48 (1963).] Limosa 38: 142-199. 1965. [From Ibis 109(3), 1967. In Dutch.] WR 127: 50

Perdeck, A. C., and B. J. Speek. RINGVERSLAG VAN HET VOGELTREKSTATION. NO. 49 (1964). [BANDING RESULTS FROM THE MIGRATORY BIRD STATION. NO. 49 (1964).] Limosa 39: 85-134. 1966. [From Ibis 109(3), 1967. In Dutch.] WR 127: 50

Pinto, O. M. de O. [CRITICAL STUDY AND PROVISIONAL CATALOGUE OF THE BIRDS OF THE FEDERAL TERRITORY OF RORAIMA.] Cadernos da Amazonia 8: 1-176. 1966. [From Auk 84(3), 1967. In Portuguese.] WR 127: 50
[Inst. Nac. Pesquisas da Amazonia, Caixa Postal 478, Manaus, Amazonas, Brazil.] About 390 spp. for the region formerly known as the territory of Rio Branco.

Rabøl, Jørgen. SJAELDNERE FUGLE VED NYBORG. [RARE BIRDS AT NYBORG (EASTERN FUNEN).] Dansk Ornithol. Forenings Tidsskr. 60(2): 77-84. June 1966. In Danish with English summ. WR 127: 50
[Zool. Lab., Universitetsparken 15, Copenhagen, Denmark.]

Reinsch, Hans Heinrich. ZUR VERBREITUNG EINIGER VOGELARTEN IM OBEREN ALLGÄU. [ON THE DISTRIBUTION OF SOME SPECIES OF BIRDS IN UPPER ALLGÄU (BAVARIAN ALPS).] Ornithol. Mitteil. 16(11): 230-232. Nov. 1964. In German. WR 127: 50
[Inst. Seefischerei, Bremerhaven 285, Germany.]

Ricker, John. BIRD RECORDS FOR VICTORIA LAND, 1962-63. Emu 64(1): 20-27, 1 fig. Oct. 1964. WR 127: 51
[Pacific Biol. Sta., Nanaimo, British Columbia, Canada.]

Robbins, Chandler S., and Willet T. Van Velzen. THE BREEDING BIRD SURVEY, 1966. US F&WS, Spec. Sci. Rept.--Wildl. no. 102. iv + 43 p., 21 figs. Feb. 1967. WR 127: 51
[Migratory Bird Populations Sta., Laurel, Md.] Abstract: A Breeding Bird Survey of a large section of North America was conducted during June 1966. Cooperators ran a total of 585 Survey routes in 26 eastern States and 4 Canadian Provinces. Future coverage of established routes will enable changes in the abundance of North American breeding birds to be measured. Routes are selected at random on the basis of one-degree blocks of latitude and longitude. Each 24.5-mile route, with 3-minute stops spaced one-half mile apart, is driven by automobile. All birds heard or seen at the stops are recorded on special forms and the data are then transferred to machine punch cards. The average number of birds per route is tabulated by State, along with the total number of each species and the percent of routes and stops upon which they were recorded. Maps are presented showing the range and abundance of selected species. Also, a year-to-year comparison is made of populations of selected species on Maryland routes in 1965 and 1966.

Schüz, E. ÜBER PALÄARKTEN IN ÄTHIOPIEN IM APRIL, MIT ZUSÄTZLICHEN ANGABEN ÜBER DEN WEISSSTORCH. [ON SPRING MIGRANTS IN ETHIOPIA WITH ADDITIONAL NOTES ON THE WHITE STORK.] Vogelwarte 23: 285-289. 1966. [From Auk 84(3), 1967. In German.] WR 127: 51

Sedgwick, L. E. BIRDS OF THE STIRLING RANGES, WESTERN AUSTRALIA. Emu 64 (1): 6-19, 1 fig., 2 pls. Oct. 1964. WR 127: 51
[Wesley Coll., South Perth, Western Australia.] Summary: The Stirling Ranges, situated 50 miles north of Albany, Western Australia, support a variety of habitats (with heathlands, perhaps, predominant) which have been occupied by an equally varied bird fauna: 107 species have been recorded, of which 89 are discussed in the present paper. Although the vegetation is to some extent modified by altitude, the latter has no obvious limiting effect on the zonation of birds in the Ranges.

Slud, Paul. THE BIRDS OF COCOS ISLAND (COSTA RICA). Am. Mus. Nat. Hist. Bull. 134(4): 263-295, illus. 1966. [From Biol. Abstr. 48(11), 1967.] WR 127: 51
[Am. Museum Nat. Hist., New York, N.Y.]

Stakhovskii, V. V. [A NOTE ON THE BIRD FAUNA OF RESERVOIRS.] Ornitologiya 7: 488. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I648. Transl. of Russian abstr.] WR 127: 51

Storr, G. M. THE AVIFAUNA OF ROTTNEST ISLAND, WESTERN AUSTRALIA. I. MARINE BIRDS. Emu 64(1): 48-60, 1 fig. Oct. 1964. WR 127: 51
[Western Australian Museum, Perth.]

Swartz, L. G. SEA-CLIFF BIRDS. In: (Environment of the Cape Thompson Region, Alaska.) US AEC (Oak Ridge, Tenn.). p. 565-584, illus. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 51
[Univ. Alaska, College, Alaska.]

Tashliev, A. O., A. N. Sukhinin, and G. S. Bel'skaya. [CHARACTERISTICS OF THE BIRD POPULATION OF SOME REGIONS OF THE WESTERN KOPET DAGH RANGE.] Izvest. Akad. Nauk Turkm. SSR Ser. Biol. 4: 45-50. 1965. [From Biol. Abstr. 48(5), 1967. In Russian.] WR 127: 51

Turček, F. J. ÚBER DIE VOGELWELT DER TSCHECHOSLOWAKEI. [ON THE AVIFAUNA OF CZECHOSOLOVAKIA.] Ornithol. Mitteil. 16(11): 233-235. Nov. 1964. In German. WR 127: 52

Viktor, Korompai. KOLTO MADARPAROK SZAMA GYULA VAROS BELTERULETEN, 1962 TAVASZAN. [THE NUMBER OF THE BREEDING BIRD PAIRS ON THE INNER TERRITORY OF THE TOWN OF GYULA (HUNGARY) IN SPRING 1962.] Aquila 71/72: 191-193. 1964/65. [From Biol. Abstr. 48(11), 1967. In Hungarian and English.] WR 127: 52

Wallace, D. I. M. BIRDS IN IRELAND DURING 1963-65. British Birds 60(5): 205-213. May 1967. WR 127: 52
Nineteen species of American birds are included in the counts.

Williamson, Francis S. L., Max C. Thompson, and John Q. Hines. AVIFAUNAL INVESTIGATIONS. In: (Environment of the Cape Thompson Region, Alaska.) US AEC (Oak Ridge, Tenn.). p. 437-480, illus. 1966. [From Biol. Abstr. 48 (8), 1967.] WR 127: 52
[Johns Hopkins Univ., Baltimore, Md.]

BIRDS--POPULATIONS & FLUCTUATIONS

Ambrose, Richard E. CHANGES IN ABUNDANCE OF MYRTLE WARBLERS DURING SPRING MIGRATION AT TUSCALOOSA, ALABAMA. Ala. Birdlife 14(2-3): 9-13, 4 figs. Sept. 1966. WR 127: 52
[Box 368, Anniston, Ala.] The largest numbers of myrtle warblers (Dendroica coronata) were found when the wind was from a southerly direction, and smallest numbers were found when the wind was from a northerly direction.--Courtesy/ Paul A. Stewart.

Anderson, K. S., E. J. Randall, A. J. Main, and R. J. Tonn. RECOVERIES OF BIRDS BANDED BY ENCEPHALITIS FIELD STATION, 1957-1965. Bird-Banding 38(2): 135-138. Apr. 1967. WR 127: 52
[Lakeville Hospital, Middleboro, Mass.] Data on 41 recoveries.--Courtesy/ Paul A. Stewart.

Keve, A. VÁRIACIÓS TANULMÁNYOK A HÁZI VERÉBEN. [NOTES ON THE DIFFERENT POPULATIONS OF THE HOUSE SPARROW.] Aquila 71/72: 39-65. 1964/65. [From Bird-Banding 38(2), 1967. In Hungarian and English.] WR 127: 52
This article has been intended by the author to answer the question, have the introduced sparrows undergone any alteration since their acclimatization in new localities? To answer the question he has studied temporal features of colonization and specimens from most of the world. Discussions are grouped geographically--North America, South America, Australia and Oceania, and South Africa. The contemporary North American population, according to the author, "does not display essential deviations from the European one" insofar as wing-length and color are concerned. Some attention is given to conformity with Bergmann's and Gloger's "rules".

Kuroda, N. [ANALYSIS OF BANDING DATA (1924-'43) OF THE TREE SPARROW IN JAPAN.] Misc. Repts. Yamashina's Inst. Ornithol. Zool. 4: 397-402. 1966. [From Auk 84(3), 1967. In Japanese with English summ.] WR 127: 52

Lee, Joshua A. RELATIVE REPRODUCTIVE EFFICIENCY OF ADULT AND SUBADULT PURPLE MARTINS. Chat 31(1): 1-2. Mar. 1967. WR 127: 52
[5104 Newcastle Rd., Raleigh, N.C.] An average of 3.42 young per pair was produced by 31 pairs of which the male was in the adult plumage; an average of 2.0 young per pair was produced by 10 pairs having males in subadult plumage.--Courtesy/ Paul A. Stewart.

Sanders, Wiley B. BREEDING BIRD STUDY AT CHAPEL HILL, NORTH CAROLINA. Chat 31(1): 3-4, 6. Mar. 1967. WR 127: 53
[606 Collidge St., Chapel Hill, N.C.] Of 87 nests found in 1965, 33 were successful, 37 were failures, and the outcome of 17 was unknown. Of 139 nests found in 1966, 67 were successful, 53 were failures, and the outcome of 19 was unknown. Thirty-two species were involved in 1965 and 38 in 1966.--Courtesy/ Paul A. Stewart.

Tenovuo, Rauno. VERÄNDERUNGEN IN DER VOGELFAUNA VON KÖKAR (ALAND, SUDWESTFINNLAND) IN DEN JAHREN 1925-1961. [CHANGES IN THE BIRD FAUNA OF KÖKAR (ÅLAND, SOUTHWEST FINLAND) DURING THE YEARS 1925-1961.] Ann. Zool. Fennici 3(1): 5-19, illus. 1966. [From Biol. Abstr. 48(8), 1967. In German.] WR 127: 53

BIRDS--ECONOMICS, CONTROL, MORTALITY

Berndt, Rudolf, and Margrit Frantzen. VOM EINFLUSS DES STRENGEN WINTERS 1962/63 AUF DEN BRUTBESTAND DER HÖHLENBRÜTER BEI BRAUNSCHWEIG. [THE INFLUENCE OF THE SEVERE WINTER OF 1962/63 ON THE BREEDING STATUS OF HOLE-NESTING BIRDS IN BRAUNSCHWEIG.] Ornithol. Mitteil. 16(6/7): 126-130. June-July 1964. In German. WR 127: 53

Black, J. A. A FURTHER LOOK AT CORMORANTS. Salmon Trout Magazine (172): 166-180. 1964. [From J. Animal Ecol. 36(2), 1967.] WR 127: 53
"Probably cormorants do little damage to salmonid fishes."

Chiba, Shinji. [SEA-BIRD DEATHS ON THE COAST OF NIIGATA PREFECTURE.] Misc. Repts. Yamashina's Inst. Ornithol. Zool. 4(3/4): 208-216. 1965. [From Biol. Abstr. 48(3), 1967. In Japanese with English summ.] WR 127: 53
[Natl. Park Nat. Study, Natl. Museum Sci., Minato-ku, Japan.]

Fankhauser, Don P. SURVIVAL RATES IN RED-WINGED BLACKBIRDS. Bird-Banding 38(2): 139-142. Apr. 1967. WR 127: 53
[Patuxent Wildl. Res. Center, Laurel, Md.] The calculated annual survival rate for Agelaius phoeniceus was roughly 50%. One bird was shot when at least 14 years old.--Courtesy/ Paul A. Stewart.

Franks, Edwin C. MORTALITY OF BLED BIRDS AS INDICATED BY RECAPTURE RATE. Bird-Banding 38(2): 125-130. Apr. 1967. WR 127: 53
[Western Ill. Univ., Macomb.] Data from 15 species failed to show that bleeding depressed recapture rate; however, recapture rate of four fringillids was significantly reduced.--Courtesy/ Paul A. Stewart.

Hindwood, K. A. BIRDS CAUGHT BY OCTOPUSES. Emu 64(1): 69-70. Oct. 1964. WR 127: 53
[105 Middle Harbour Rd., Lindfield, New South Wales.] "Larus novae-hollandiae, Sterna bergii, and Eudyptula minor."

Johnston, R. F. SOME OBSERVATIONS ON NATURAL MASS MORTALITY OF HOUSE SPARROWS. Kans. Ornithol. Soc. Bull. 18(2): 9-10. June 1967. WR 127: 53
[Univ. Kans., Lawrence.] Analysis of sex and age ratios for house sparrows killed by hail and wind storms.

Kapoor, C. P. ACCIDENTAL DEATHS OF HOUSE SWIFTS CAUSED BY THREADS USED IN NEST BUILDING. Pavo Indian J. Ornithol. 3(1): 74-75. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 53
[M. S. Univ., Baroda, Baroda, Gujarat, India.]

Newton, I. ATTACKS ON FRUIT BUDS BY REDPOLLS CARDUELIS FLAMMEA. Ibis 109 (3): 440-441. July 1967. WR 127: 53
[Edward Grey Inst., Oxford, England.]

Pomarnacki, L. [MICE CATCHERS--AS HELPERS OF FORESTRY.] Las Polski 39 (13/14): 20. July 1965. [From Bibliog. Agr. 31(6), 1967. In Polish.] WR 127: 54
"Birds."

Zatsepina, R. A. [EGG MORTALITIES OF SOME PASSERINES IN CONNECTION WITH THE FORMATION OF THE KUIBYSHEV RESERVOIR.] Ornitologiya 7: 470. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I446. Transl. of Russian abstr.] WR 127: 54

BIRDS--PARASITES & DISEASES

Abdallah, I. S., and W. Winkenwerder. HAUSSPERLINGE (PASSER DOMESTICUS L.) ALS ÜBERTRÄGER VON VIBRIONEN. [THE HOUSE SPARROW (PASSER DOMESTICUS L.) AS A CARRIER OF VIBRIOS.] Zentralbl. Veterinarmedizin Reihe B 13(4): 338-344. 1966. [From Biol. Abstr. 48(8), 1967. In German with English, Spanish and French summ.] WR 127: 54
[Tierarztl. Hochsch., Hannover, Germany.]

Brenes, R. R., G. Arroyo, and G. Muñoz. HELMINTOS DE LA REPÚBLICA DE COSTA RICA. XXI. ALGUNOS TREMÁTODOS DE AVES SILVESTRES. 2. [HELMINTHS OF THE REPUBLIC OF COSTA RICA. XXI. SOME TREMATODES OF WILD BIRDS. 2.] Rev. Biol. Trop., Univ. Costa Rica 14: 123-132. 1966. [From Auk 84(3), 1967. In Spanish with English summ.] WR 127: 54

Galindo, P., and O. Sousa. BLOOD PARASITES OF BIRDS FROM ALMIRANTE, PANAMA, WITH ECOLOGICAL NOTES ON THE HOSTS. Rev. Biol. Trop., Univ. Costa Rica 14: 27-46. 1966. [From Auk 84(3), 1967. In English with Spanish summ.] WR 127: 54
Report on 3,634 blood smears representing 249 bird species of 48 families. Habitat data are provided and status at Almirante indicated where a species was found positive for blood parasites.

Kawano, K. [VARIATION IN THE INFECTION RATE OF CESTODES IN THE JAPANESE TREE SPARROW.] Japanese J. Parasitol. 12: 502-506. 1963. [From Auk 84(3), 1967. In Japanese with English summ.] WR 127: 54

Kawano, K. [THE LONGEVITY OF CESTODES OF WILD BIRDS.] Japanese J. Parasitol. 13: 139-142. 1964. [From Auk 84(3), 1967. In Japanese with English summ.] WR 127: 54

Nickol, Brent B. ACANTHOCEPHALA OF LOUISIANA BIRDS. Ph.D. thesis, La. State Univ. 134 p. 1966. [From Dissertation Abstr. 27(9B), 1967.] WR 127: 54
The percentage of birds infected with Acanthocephala varied greatly depending on the species of bird examined. Of the 581 examined by the author 128 (22%) were infected. Species from the families Strigidae (60%), Accipitridae (57%), Icteridae (42%), and Rallidae (42%) were the most frequently parasitized by Acanthocephala. Only species of the families Anatidae, Accipitridae, Rallidae, and Strigidae contained an average of more than three acanthocephalans per infected bird.

Sogandares-Bernal, F., and D. W. Walton. STICTODORA LARIFORMICOLA N. SP. (TREMATODA: HETEROPHYIDAE) FROM FLORIDA PISCIVOROUS BIRDS. Proc. Helminthol. Soc. Washington 32: 115-117. 1965. [From Auk 84(3), 1967.] WR 127: 54
Hosts: Larus argentatus, L. atricilla, L. delawarensis, and Thalasseus maximus.

Van Strydonck, Diane. TREMATODES OF THE DIGESTIVE SYSTEM OF WILD BIRDS IN BELGIUM. Ann. Soc. Belg. Med. Trop. Parasitol. Mycol. 45(6): 679-684. 1965. [From Biol. Abstr. 48(6), 1967. In English with French, Dutch, German and Spanish summ.] WR 127: 55
[Vet. School, Ghent, Belgium.]

GAME BIRDS--GENERAL

McHenry, M. G. PHEASANT NEST PARASITIZED BY A BOB-WHITE. Kans. Ornithol. Soc. Bull. 17: 26. 1966. [From Auk 84(3), 1967.] WR 127: 55
A female ring-necked pheasant was flushed from a nest containing 10 pheasant and 6 bobwhite eggs.

QUAIL

Ballinger, Alfred Lee. AN ANALYSIS OF THE BOBWHITE QUAIL (COLINUS VIRGINIANUS) ARTIFICIAL PROPAGATION AND RELEASE PROGRAM. Tenn. Game & Fish Comm. xii + 45 p., 1 fig. 1967. WR 127: 55
During the 22 years of quail production at the state-owned game farm, 16,627 quail eggs, 284,380 chicks, 4,028 brood stock, and 441,596 adults were produced for quail stocking purposes. The eggs, chicks, and brood stock were used in the cooperative brooding and releasing method. The random release method received 324,536 adults. A total of 117,060 adults were distributed under the sanctuary agreements. The average cost to the game farm and the Tennessee Game and Fish Commission to produce and distribute an egg was $0.255. The average cost for producing and distributing a chick was $0.350, and for an adult, $1.290. The Tennessee Game and Fish Commission recognized that the release of artificially propagated quail by any method would not increase quail populations materially, but the program had limited educational and public relations value and was continued for that reason for a short time.--From summ. & concl.

Fischer, Karl. VON RÜCKGANG DER WACHTEL (COTURNIX COTURNIX). [ON THE DECLINE OF THE COTURNIX QUAIL.] Ornithol. Mitteil. 16(6/7): 139. June-July 1964. In German. WR 127: 55
[7418 Metzingen (Württ.), Elsterweg 11, Germany.]

Miller, B. F. CALCIUM AND PHOSPHORUS IN THE DIET OF COTURNIX QUAIL. Poultry Sci. 46(3): 686-692, 1 fig. May 1967. WR 127: 55
[Colo. Agr. Expt. Sta., Fort Collins.] The level of calcium and phosphorus in the diet and the Ca:P ratio had a significant effect on the feathering of growing quail. As the calcium and phosphorus content of the diet increased, the relative feathering of the birds decreased. A spreading of the Ca:P ratio also caused a similar depression in feathering.--From summ.

Sachs, Benjamin D. PHOTOPERIODIC CONTROL OF THE CLOACAL GLAND OF THE JAPANESE QUAIL. Science 157(3785): 201-203, 3 figs. 14 July 1967. WR 127: 55
[Rutgers Univ., Newark, N.J.] Abstract: Changes in photoperiod cause correlated changes in testes, cloacal glands, cloacal foam, and reproductive behavior of male Japanese quail. The cloacal protrusion may serve as a convenient external index of androgen, permitting repeated measurement without operation on or killing of the animal.

PHEASANTS

Barancheev, L. M. [MIGRATIONS OF MANCHURIAN PHEASANTS TO THE AMUR REGION.] In: (Migrations of birds and mammals.) Nauka (Moscow). p. 125-132. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 11363. Transl. of Russian abstr.] WR 127: 55

Besadny, C. D. FATEFUL THREE WEEKS. Wis. Conserv. Bull. 32(3): 20-22, 2 figs. May/June 1967. WR 127: 56
[Wis. Conserv. Dept., Madison.] "Recently-completed research has indicated that prenesting temperatures between April 21 and May 11--the period between start of egglaying and nest initiation--are very influential each year on pheasant populations in Wisconsin. If temperatures average below normal during this critical three-week period, incubation is delayed, nesting success is reduced and the fall pheasant population shows a decline compared with the previous fall. When mean temperatures average above normal, pheasants get down to the business of serious nesting sooner, nesting success is better and fall populations increase."

Hagen, Yngvar, Kaj Westerskov, Hj. Munthe-Kaas Lund, Arne Krafft, and Helge Christensen. FASANEN. [PHEASANTS]. Vilt & Viltstell no. 4. 64 p., 31 figs. 1964. In Norwegian. WR 127: 56
Deals with the following topics: pheasant questions, various pheasants of the world, acclimatization of the pheasant in Norway, map of the pheasant potential for Norway, winter-census in Asker and Baerum during 1961-62, should hen pheasants be protected, winter-feeding of pheasants, and present regulatory measures.

Ives, Jonathan H., and John B. Cowan. A HIGH PHEASANT (PHASIANUS COLCHICUS) NEST DENSITY ON THE GRAY LODGE WATERFOWL MANAGEMENT AREA. Calif. Fish & Game 53(3): 212-213, 1 fig. July 1967. WR 127: 56
[Calif. Dept. Fish & Game, Sacramento.] One hundred fifty-four nests were found on a burnt-over area of 110 acres, representing a density of 1.4 per acre.

Pullianinen, Erkki. FASAANIN RAVINNOSTA SUOMESSA. [THE FOOD OF THE PHEASANT (PHASIANUS COLCHICUS) IN FINLAND; PRELIMINARY REPORT.] Suomen Riista 19: 113-126, 2 figs. 1966. In Finnish with English summ. WR 127: 56

Roslien, David John. INCIDENCE OF DISEASE ANTIBODIES IN PHEASANTS AND PHEASANT MANAGEMENT ON GAME FARMS AND SHOOTING PRESERVES IN IOWA. Ph.D. thesis, Iowa State Univ. 218 p. 1966. [From Dissertation Abstr. 27(9B), 1967.] WR 127: 56

Westerskov, Kaj. UTILISATION OF GRIT BY PHEASANTS IN NEW ZEALAND. New Zealand Dept. Internal Affairs, Wildl. Publ. no. 65. 31 p. 1965. WR 127: 56
[Univ. Otago, Dunedin, New Zealand.] Digestion and function of grit, evidence of need for grit, grit consumption by pheasants, kinds of grit eaten and substitutes, and grit utilization by American pheasants are discussed.

GROUSE, PARTRIDGE, ETC.

Chiba, Shinji. [FOOD ANALYSIS OF THE JAPANESE PTARMIGAN.] Misc. Repts. Yamashina's Inst. Ornithol. Zool. 4(3/4): 184-197. 1965. [From Biol. Abstr. 48(3), 1967. In Japanese with English summ.] WR 127: 56
[Natl. Park Nat. Study, Natl. Museum Sci., Minato-Ku, Japan.] "Lagopus mustus japonicus."

Dement'ev, V. I. [CONCERNING THE ECOLOGY OF THE CAPERCAILLIE (TETRAO UROGALLUS) ON THE LISINSK GAME FARM.] Trudy Vses. Zaochn Les. Inst. 8: 171-181. 1964. [From Biol. Abstr. 48(8), 1967, from Referat. Zhur., Biol., 1965, no. 8I189. Transl. of Russian abstr.] WR 127: 56

Dick, T. A., and M. D. B. Burt. OBSERVATIONS ON THE LIFE CYCLE OF DAVINEA TETRAOENSIS FUHRMANN, 1919 (PLATYHELMINTHES-CESTODA) A PARASITE OF RUFFED GROUSE (BONASA UMBELLUS). Canadian J. Zool. 45(2): 223. Mar. 1967. WR 127: 56
[Univ. New Brunswick, Fredericton, New Brunswick, Canada.]

Donaldson, Douglas D. BRUSH CONTROL AND THE WELFARE OF LESSER PRAIRIE CHICKENS IN WESTERN OKLAHOMA. Proc. Okla. Acad. Sci. 46: 221-228, 3 figs. 1966. WR 127: 57
[Okla. Coop. Wildl. Res. Unit, Stillwater.] "Habitat components used by lesser prairie chickens during the course of this study were present in both treated and nontreated areas, which implies that brush control did not seriously impair the welfare of the lesser prairie chicken. Some habitat components may not be used consistently by lesser prairie chickens throughout all seasons."

Harris, Stanley W. FALL FOODS OF SHARP-TAILED GROUSE IN MINNESOTA. J. Wildl. Mgmt. 31(3): 585-587. July 1967. WR 127: 57
[Humboldt State Coll., Arcata, Calif.] Abstract: The major September-October foods found in the crops of 263 sharp-tailed grouse (Pedioecetes phasianellus) shot in northern Minnesota were seeds of oats, wheat, flax, and Vaccinium sp.; leaves of clover (Trifolium spp.); and grasshoppers.

Hell, Pavel. K NIEKTORYM OTAZKAM CHOVU JARABIC V ZAPADOSLOVENSKOM KRAJI. [RAISING OF PARTRIDGES IN SOUTH WEST SLOVAKIA.] Zool. Listy 14(1): 37-46. 1965. [From Biol. Abstr. 48(7), 1967. In Czech with German summ.] WR 127: 57
[Polnohospodar. praxe, Nitra, Czechoslovakia.]

Hjorth, I. ARENA BEHAVIOUR OF THE BLACK GROUSE (LYRURUS T. TETRIX) (COCKS). Phil. Trans. Roy. Soc. London Ser. B Biol. Sci. 251(772): 485-492, illus. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 57
[Univ. Uppsala, Uppsala, Sweden.]

Lennerstedt, Ingvar. EGG TEMPERATURE AND INCUBATION RHYTHM OF A CAPERCAILLIE (TETRAO UROGALLUS L.) IN SWEDISH LAPLAND. Oikos 17(2): 169-174, illus. 1966. [From Biol. Abstr. 48(11), 1967. With Russian summ.] WR 127: 57
[Univ. Lund, Lund, Sweden.]

Lumsden, Harry G. THE ROCK PTARMIGAN, LAGOPUS MUTUS RUPESTRIS, IN ONTARIO AND MANITOBA. Canadian Field-Nat. 78(3): 161-167, 1 fig. July-Sept. 1964. WR 127: 57

Osmolovskaya, V. I. [THE ABUNDANCE AND DISTRIBUTION OF THE COMMON PARTRIDGE (PERDIX PERDIX) IN THE EUROPEAN PART OF THE USSR.] Zool. Zhur. 45(1): 90-98, illus. 1966. [From Biol. Abstr. 48(11), 1967. In Russian with English summ.] WR 127: 57

Pulliainen, Erkki. PELTOPYYN TALVIEKOLOGIASTA. [ON THE WINTER ECOLOGY OF THE PARTRIDGE (PERDIX PERDIX) IN FINLAND.] Suomen Riista 19: 46-62, 2 figs. 1966. In Finnish with English summ. WR 127: 57

Rajala, Paavo. METSÄKANALINTUJEN MÄÄRÄSTÄ JA ESIINTYMISESTÄ ERI MAASTOTYYPEILLÄ OULUN LÄÄNISSÄ VUONNA 1966 SUORITETTUGEN KOMPASSILINJA-ARVIOINTIEN MUKAAN. [THE NUMBER OF TETRAONID BIRDS AND THEIR OCCURRENCE IN VARIOUS HABITAT TYPES IN THE OULU DISTRICT ACCORDING TO COMPASS LINE CENSUS, 1966.] Suomen Riista 19: 130-144, 8 figs. 1966. In Finnish with English summ. WR 127: 57
The mean densities obtained for the whole Oulu district were: capercaillie 4.1, Black grouse 6.4, hazel grouse 3.1 and willow grouse 3.2, and all species together 16.8 birds per sq. km. A rounded estimate made from these density figures gives as the total number for the area by species (percentages given in brackets): capercaillie c. 200,000 (25%), black grouse 310,000 (38%), hazel grouse 150,000 (18%) and willow grouse 160,000 (19%).--From summ.

Rajala, Paavo. METSÄKANALINTUKANNAT ELOKUUSSA 1966 REITTIARVIOINTIEN MUKAAN. [FINNISH TETRAONID POPULATIONS IN AUGUST 1966 ACCORDING TO ROUTE-CENSUS.] Suomen Riista 19: 156-161, 2 figs. 1966. In Finnish with English summ. WR 127: 57

Rajala, Paavo. RIEKON JA KIIRUNAN TALVISESTA KASVIRAVINNON VALINNASTA JA PUISSA RUOKAILUSTA. [ON THE CHOICE OF PLANT DIET AND FEEDING IN TREES OF THE WILLOW GROUSE (LAGOPUS LAGOPUS) AND PTARMIGAN (LAGOPUS MUTUS) IN WINTER.] Suomen Riista 19: 79-93, 4 figs. 1966. In Finnish with English summ. WR 127: 58

Based on questionnaires.

Sanderson, Glen C., and William R. Edwards. EFFORTS TO PREVENT THE EXTINCTION OF THE PRAIRIE CHICKEN IN ILLINOIS. Trans. Ill. State Acad. Sci. 59(4): 326-333, illus. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 58

[Ill. Nat. Hist. Surv., Urbana.] The decline of the prairie chicken (Tympanuchus cupido pinnatus) in Illinois is reviewed. Actions to prevent the extinction of this species are: formation of the Prairie Chicken Foundation; formation of the Prairie Grouse Committee; purchases of land for nesting sanctuaries; and investigations of distribution, abundance, nesting requirements, and other ecological factors affecting the prairie chicken. Continuation of these investigations and continuation of land acquisition on an increased scale are necessary if this species is to be saved from extinction in Illinois.

Valanne, Kyösti. METSON JA RIEKON PESIMISAIKAISESTA KÄYTTÄYTYMISESTÄ JA HAUTOMISLÄMPÖTILASTA. [INCUBATION BEHAVIOUR AND TEMPERATURE OF CAPERCAILLIE (TETRAO UROGALLUS) AND WILLOW GROUSE (LAGOPUS LAGOPUS).] Suomen Riista 19: 30-41, 6 figs. 1966. In Finnish with English summ. WR 127: 58

Watson, George E. THE CHUKAR PARTRIDGE (AVES) [MORPHOLOGY, ECOLOGY] OF ST. HELENA ISLAND, SOUTH ATLANTIC OCEAN [ALECTORIS CHUKAR]. Proc. Biol. Soc. Wash. 79: 179-182. 1966. [From Biol. Abstr. 48(1), 1967.] WR 127: 58

[Smithsonian Inst., Washington, D.C.]

Weaver, Harold R., and William L. Haskell. SOME FALL FOODS OF NEVADA CHUKAR PARTRIDGE. J. Wildl. Mgmt. 31(3): 582-584. July 1967. WR 127: 58

[Canadian Wildl. Serv., Edmonton, Alberta.] Abstract: Fall foods of the exotic chukar partridge (Alectoris graeca) were studied by analyzing 105 crops collected in two general areas of Nevada over 5 years. This study confirmed the importance of cheatgrass (Bromus tectorum) to this game bird in Nevada during the fall months. A minimum of 22 plant species were recorded; 5 of these comprised over two-thirds of the total volume. Animal matter, chiefly grasshoppers, comprised approximately 11 percent of the fall diet.

Westerskov, Kaj. WINTER ECOLOGY OF THE PARTRIDGE (PERDIX PERDIX) IN THE CANADIAN PRAIRIE. Proc. New Zealand Ecol. Soc. 12: 23-30, 6 figs. 1965. WR 127: 58

[Univ. Otago, Dunedin, New Zealand.] Summary: Partridges (Perdix perdix) were introduced into the Canadian prairie in 1908 and have acclimatized successfully in spite of rigorous winters. They are morphologically well adapted to exist in cold winters with limited snow: long enough legs and favourable weight load, heavier winter plumage, layers of fat acting as insulation as well as emergency energy. Partridges respond to winter with extreme economy in energy: they never fly unless forced to, and when not feeding sit still with ruffled feathers, tarsi covered, beak among shoulder feathers to breathe pre-warmed air. They roost in a huddle ("jug") on hard snow or in holes in loose snow. Throughout winter they live in coveys, with security against predators. The major factor in successful winter survival of partridges in the prairies is their change in food habits. In Europe they feed mainly on green leaf material during winter, while in the prairies partridges feed almost exclusively on waste grain and weed seeds. During zero weather, a partridge consumes daily some 50-75 g. of grain and weed seeds to maintain body temperature, and only this high calorific food can sustain them; green foliage would require four times the bulk to yield the same number of calories, and could not be obtained or stored and utilized in crop and gizzard in the time available. Both waste grain and weed seeds keep intact, not rotting or germinating in the dry snow in temperatures almost constantly below freezing. So there is an abundant food supply, readily available.

Zwickel, Fred C. SOME OBSERVATIONS OF WEATHER AND BROOD BEHAVIOR IN BLUE GROUSE. J. Wildl. Mgmt. 31(3): 563-568, 1 fig. July 1967. WR 127: 59
[Univ. Alberta, Edmonton, Canada.] Abstract: Two broods of wild blue grouse (Dendragapus obscurus fuliginosus) were observed for a total of nearly 27 hours in 1962, each on two consecutive days, the first day in each case being cold and wet and the second warmer and drier. These broods, plus another for which some data are presented, experienced what is generally considered to be inclement weather for young gallinaceous birds. There was no apparent correlation between periods of brooding and occurrence of rain. Rain and cold, as described here, did not seem to injure chicks directly but did increase the amount of time spent in brooding, and thus shortened the time available for feeding. This too had no apparent effect on the young. It is suggested that young blue grouse are able to cope with the kinds of conditions noted here.

TURKEY

Ellis, James E., and John B. Lewis. MOBILITY AND ANNUAL RANGE OF WILD TURKEYS IN MISSOURI. J. Wildl. Mgmt. 31(3): 568-581, 7 figs. July 1967. WR 127: 59
[Univ. Calif., Davis.] Abstract: Mobility and annual range information on the eastern wild turkey (Meleagris gallapavo silvestris) was provided by 66 birds over a 17-month period. Turkeys were trapped by cannon net, banded, and released at the trapsite. Patagial wing-tags made visual identification of each bird possible. Ten birds were equipped with transmitters and provided telemetry data on daily movements. Minimum annual range of four adult males observed throughout the study averaged 750 acres. Telemetry data on four other adult gobblers showed that their average annual range was 1,100 acres. Annual range of hens appeared to be slightly larger than 1,300 acres, based on observation only. Dispersal from winter range for adult gobblers was 1.3 miles; for hens 1.9. Limited data indicated that juvenile hens were perhaps the most mobile age and sex group and that several of them moved off of the study area during the spring dispersal.

DOVES & PIGEONS

Blair, Albert P. BULLFROG ATTEMPTS TO CATCH DOVE. Southwestern Nat. 12 (2): 201-202. 4 Aug. 1967. WR 127: 59
[Univ. Tulsa, Tulsa, Okla.]

Breitenbach, R. P., and T. S. Baskett. ONTOGENY OF THERMOREGULATION IN THE MOURNING DOVE. Physiol. Zool. 40(3): 207-217, 4 figs. July 1967. WR 127: 59
[Univ. Mo., Columbia.] Summary: The oxygen consumption and body-temperature responses of 3-, 6-, 9-, and 12-day-old mourning doves (Zenaidura macroura) were measured as they were placed in 19, 29, and 39 C temperatures. At 39 C, oxygen consumption showed no difference among birds of different ages. At 29 C, 12-day-old birds appeared to be at their thermoneutral temperature, but 6- and 9-day-old birds showed an increase in oxygen consumption. Six-day-old doves showed thermoregulatory responses (panting and shivering) to environmental temperature changes but were inefficient at regulating their body temperatures. A 19 C temperature appeared to be a challenge to doves of all ages tested. Both 3- and 6-day-old doves lost heat more rapidly when placed alive in a 2 C chamber than when dead. It is suggested that live birds cool more rapidly because of respiratory ventilation and because of extensive non-insulated vascular flow. Major insulative changes occur in doves between 6 and 9 days. It is suggested that the differentiation of vascular reflexes controlling peripheral blood flow may also be of major importance in the ontogeny of thermoregulation in altricial birds.

Ennis, T. THE ARRIVAL AND SPREAD OF THE COLLARED DOVE (STREPTOPELIA DECAOCTO) IN NORTHERN IRELAND. Irish Nat. J. 15: 63-67. 1965. [From J. Animal Ecol. 36(2), 1967.] WR 127: 60

Since its arrival in County Down in 1960, this bird, which has only colonized Britain since 1955-56, has established itself in all counties of Northern Ireland except Tyrone.

Klataske, Ronald D. MOURNING DOVE NESTING SUCCESS AND NEST SITE SELECTION IN A SANDHILL REGION OF NEBRASKA. Nebr. Bird Review 34(4): 71-75. Oct. 1966. WR 127: 60

[Univ. Maine, Orono.] Ninety-three nesting attempts were observed in a 10-acre area during the summer of 1965. Fifty-seven (61.3%) of the nests were successful. The causes of unsuccessful nesting included desertion, predation and weather. Mourning doves appeared to prefer Chinese elm, American elm and red cedar for nest sites. Five nests contained three eggs or young, rather than the usual two. No ground nesting was observed in the area.--Auth. abstr.

Lehrman, Daniel S., and Rochelle P. Wortis. BREEDING EXPERIENCE AND BREEDING EFFICIENCY IN THE RING DOVE. Animal Behaviour 15(2-3): 223-228. Apr./July 1967. WR 127: 60

[Inst. Animal Behavior, 31 Fulton St., Newark, N.J.] Summary: The efficiency was measured of various aspects of the breeding activity of ring doves Streptopelia risoria in pairs matched for age, but differing in previous breeding experience. In one experiment, the breeding efficiency of pairs with previous breeding experience was compared with that of pairs without previous breeding experience. In a second experiment, the comparison was made between pairs in which only the female had had previous breeding experience, and pairs in which only the male had had such experience. The data collected assessed: (a) the readiness with which the female produced eggs as a result of stimulation by the male; (b) the efficiency of incubation behaviour; (c) the efficiency of parental care of young after hatching; and finally (d) over-all breeding effectiveness. It was found that (a) experienced pairs were superior to inexperienced pairs with respect to all of these measures, and (b) the experience both of the male and of the female contributes to this difference, except that the shorter latency to egg-laying in experienced pairs is due to the increased responsiveness of experienced females, rather than to the increased effectiveness of experienced males.

Locke, Louis N., and George E. Bagley. LEAD POISONING IN A SAMPLE OF MARYLAND MOURNING DOVES. J. Wildl. Mgmt. 31(3): 515-518, 1 fig. July 1967. WR 127: 60

[Patuxent Wildl. Res. Center, Laurel, Md.] Abstract: A sick mourning dove (Zenaidura macroura) collected in Maryland with 2 lead shot in the gizzard showed acid-fast intranuclear inclusion bodies in the kidney tubular cells. The liver and the tibia contained 72 ppm and 187 ppm lead (wet weight) respectively. Four gizzards from 62 doves killed by hunters contained lead shot. The lead content of 43 dove livers ranged from 0.4-14.0 ppm (wet weight); 40 of these doves were collected by hunters, and the other 3 were dying of trichomoniasis.

Lofts, B., R. K. Murton, and N. J. Westwood. EXPERIMENTAL DEMONSTRATION OF A POST-NUPTIAL REFRACTORY PERIOD IN THE TURTLE DOVE STREPTOPELIA TURTUR. Ibis 109(3): 352-358. July 1967. WR 127: 60

[Univ. Hong Kong, Hong Kong.]

Lofts, B., R. K. Murton, and N. J. Westwood. PHOTORESPONSES OF THE WOODPIGEON COLUMBA PALUMBUS IN RELATION TO THE BREEDING SEASON. Ibis 109(3): 338-351, 7 figs. + 2 pls. July 1967. WR 127: 60

[Univ. Hong Kong, Hong Kong.]

Peal, R. E. F. WOODPIGEONS IN A LONDON SUBURB. London Bird Rep. 29: 89-90. 1965. [From J. Animal Ecol. 36(2), 1967.] WR 127: 61

Woodpigeons have nested on buildings in a northern suburb of London for several years. Elsewhere in the area, this habit has been recorded only from Inner London.

Schara, Ron. SHOULD WE HUNT MOURNING DOVES? S. Dak. Conserv. Digest 34 (1): 2-5, illus. Jan./Feb. 1967. WR 127: 61

Thirty of the 48 adjoining states have dove seasons and consider the dove a valuable game bird. In S. Dak. the distribution, habitat versatility, reproduction potential, and food supply of the mourning dove are such that hunting of this game bird could be initiated.

Wight, Howard M., Robert U. Mace, and Wesley M. Batterson. MORTALITY ESTIMATES OF AN ADULT BAND-TAILED PIGEON POPULATION IN OREGON. J. Wildl. Mgmt. 31(3): 519-525, 2 figs. July 1967. WR 127: 61

[Oreg. State Univ., Corvallis.] Abstract: In the period 1952-65, 3,140 band-tailed pigeons (Columba fasciata) were banded at Nehalem, Oregon, during each May and June when the birds were in prebreeding flocks of adults. These banding efforts averaged 56 new captures per trap-day over the 14-year period. The average annual mortality rate based on 262 recoveries was 28.7 percent. When return data were used to calculate mortality, 687 records indicated a rate of 29.1 percent. Productivity of this population, assuming that the population has remained relatively stable in size, was estimated to be about one young per pair when a 40 percent immature mortality rate was assumed.

Wofford, Jim E., and William H. Elder. FIELD TRIALS OF THE CHEMOSTERILANT, SC-12937, IN FERAL PIGEON CONTROL. J. Wildl. Mgmt. 31(3): 507-515, 5 figs. July 1967. WR 127: 61

[Nebr. Game, Forestation & Parks Comm., Lincoln.] Abstract: A practical evaluation of the chemosterilant SC-12937 (20,25-diazocholesterol dihydrochloride) as a reproductive inhibitor for feral common pigeons (Columba livia) was made by feeding wild, free-flying birds with wheat containing 0.1 percent by weight of the absorbed drug. Pigeons consumed sufficient wheat to supply each bird with approximately 0.30 g of the drug in 11-16 days. In two isolated rural colonies in Missouri reproductive inhibition was nearly complete for 5 and 7 months respectively; in a small Missouri town it was 89 percent complete for 3 months and in two flocks in New York City where egress and ingress were high, recruitment of young was reduced 10 percent. Treatment in March and again in July on a city-wide basis is recommended for practical reproductive control.

WATERFOWL

Anonymous. [GEOGRAPHY OF WATERFOWL RESOURCES IN THE USSR, STATE OF THE STOCKS, AND METHODS OF THEIR PRODUCTION AND CORRECT UTILIZATION. THESES PRESENTED AT THE CONFERENCE HELD ON 7-9 APRIL, 1965. VOL. I.] (Moscow). 166 p., illus. 1965. Price 55 kopecks. [From Biol. Abstr. 48(10), 1967, from Referat. Zhur., Biol., 1966, no. 11584K. In Russian.] WR 127: 61

Antikainen, Eero O. ERÄIDEN POHJOIS-SAVON RUNSASRAVINTEISTEN JÄRVIEN PESIVÄSTÄ VESILINTUKANNASTA. [ON WATERFOWL BREEDING IN SOME EUTROPHIC LAKES IN NORTHERN SAVO, FINLAND.] Suomen Riista 19: 105-112, 2 figs. 1966. In Finnish with English summ. WR 127: 61

Balat, Frantisek. BRUTBIONOMIE DER KOLBENENTE, NETTA RUFINA (PALLAS) AUF DEN TEICHEN BEI LEDNICE (SUEDMAEHREN). [BREEDING BIONOMICS OF THE DUCK NETTA RUFINA (PALLAS) ON PONDS NEAR LEDNICE (SOUTHERN MORAVIA).] Zool. Listy 15(3): 235-248, illus. 1966. [From Biol. Abstr. 48(7), 1967. In German with Czech summ.] WR 127: 61

[Czech. Acad. Sci. Inst. Wirbeltierforch., Brno, Czechoslovakia.]

Bennett, Carl L., Jr. A NEW METHOD FOR ESTIMATING NUMBERS OF DUCK BROODS. J. Wildl. Mgmt. 31(3): 555-562, 1 fig. July 1967. WR 127: 62
[Mich. Dept. Conserv., Lansing.] Abstract: A proposed new method of estimating duck brood numbers employs a formula based on the assumption that as the number of different broods seen increases, to see a previously unrecorded brood becomes progressively more difficult. The rate of this decline follows a logarithmic series curve. Counts are made from a series of observation points and all brood sightings are pooled into "new" brood and "repeat" categories. For 2 years final estimates (21 and 30) of broods were compared against "complete" counts (18 and 26) obtained through intensive efforts. For the following 3 years, comparisons were made each year among three separate surveys, two using the same estimating formula.

Bezzel, E. ZUR ERMITTLUNG VON GELEGEGRÖSSE UND SCHLÜPFERFOLG BEI ENTENVÖGELN. [ON THE DETERMINATION OF CLUTCH SIZES AND HATCHING SUCCESS OF DUCKS.] Vogelwelt 87: 97-106. 1966. [From Ibis 109(3), 1967. In German.] WR 127: 62
Includes a discussion of errors in calculating clutch size and hatching success.

Bouchard, Rodrigue. AMÉNAGEMENT DE L'HABITAT À CANARD DE LA RIVIÈRE OUTAOUAIS. [MANAGEMENT OF THE DUCK HABITATS ON THE OUTAOUAIS RIVER (CANADA).] Quebec Serv. Faune Rapp. 1: 81-94. 1963. [From Biol. Abstr. 48(9), 1967. In French.] WR 127: 62

Bouchard, Rodrigue. AMÉNAGEMENT DE L'HABITAT À CANARD DANS LA PARTIE INFÉRLEURE DE L'OUTAOUAIS. [MANAGEMENT OF DUCK HABITATS IN LOWER REGION OF THE OUTAOUAIS RIVER (CANADA).] Quebec Serv. Faune Rapp. 3: 1-12, illus. 1964. [From Biol. Abstr. 48(9), 1967. In French.] WR 127: 62

Bouchard, Rodrigue. BAGUAGE DE CANARDS À SAINT-METHODE, COMTE DE ROBERVAL. [BANDING DUCKS IN SAINT-METHODE, ROBERVAL COUNTY (CANADA).] Quebec Serv. Faune Rapp. 3: 74-79, illus. 1964. [From Biol. Abstr. 48(9), 1967. In French.] WR 127: 62

Christensen, Niels Hesselbjerg. MOULT MIGRATION OF PINKFOOTED GOOSE (ANSER FABALIS BRACHYRHYNCHUS BAILLON) FROM ICELAND TO GREENLAND. Dansk Ornithol. Forenings Tidsskr. 61(1): 56-66, 1 fig. Mar. 1967. In English with Danish summ. WR 127: 62
[Odensevej 18, Himmelev, Roskilde, Denmark.]

Coimbra-Filho, A. F. NOTAS SÔBRE A MARRECA-ANANAI AMAZONETTE BRASILIENSIS (GMELIN, 1782). SUA REPRODUCÃO EM CATIVEIRO E ENSAIOS DE REPOVOAMENTO (ANATIDAE, AVES). [NOTES ON THE TEAL AMAZONETTE BRASILIENSIS (GMELIN, 1782). ITS REPRODUCTION IN CAPTIVITY AND EXPERIMENTS ON DOMESTICATION (ANATIDAE, AVES). Rev. Brasil Biol. 24(4): 383-391, illus. 1964. [From Biol. Abstr. 48(2), 1967. In Portuguese with English summ.] WR 127: 62
[Jardim Zool., Rio de Janeiro, Brazil.]

Fiala, Vladimír. BEBRUETUNGSBEGINN UND FAMILIENGROESSE DER ENTEN AUF DEN TEICHEN BEI NAMEST N. OSL. [START OF BROODING AND FAMILY SIZE OF DUCKS ON PONDS NEAR NAMEST N. OSL.] Zool. Listy 15(3): 261-272, illus. 1966. [From Biol. Abstr. 48(7), 1967. In German with Czech summ.] WR 127: 62
[Husova 8, Brno, Czechoslovakia.]

Folk, Čestmír, Karel Hudec, and Jiří Toufar. THE WEIGHT OF THE MALLARD, ANAS PLATYRHYNCHOS AND ITS CHANGES IN THE COURSE OF THE YEAR. Zool. Listy 15(3): 249-260, illus. 1966. [From Biol. Abstr. 48(7), 1967. In English with Czech summ.] WR 127: 62
[Czech. Acad. Sci., Brno, Czechoslovakia.]

Frith, H. J. THE DOWNY YOUNG OF THE FRECKLED DUCK STICTONETTA NAEVOSA. Emu 64(1): 42-47, 2 pls. Oct. 1964. WR 127: 63
[CSIRO, Canberra, Australia.] Summary: The downy young of Stictonetta naevosa is uniformly grey in colour and, apart from being darker above than below, has no distinct plumage pattern. It is very different from the young of the tribe Anatini with which it is at present classified. The young could be considered to resemble those of the Anserini or the Oxyurini but is closer in appearance to the Anserini. There is anatomical and behavioural evidence which, with the plumage pattern of the young, shows that Stictonetta is related to the Anserini, and should be considered a member of the subfamily Anserinae rather than the Anatinae.

Gavrin, V. [WATERFOWL OF KAZAKHSTAN.] Okhota & Okhotnich'e Khoz. 1964(8): 19-21. 1964. [From Biol. Abstr. 48(5), 1967, from Referat. Zhur., Biol., 1965, no. 4I193. Transl. of Russian abstr.] WR 127: 63
Forty-nine of the 56 spp. found in Kazakhstan nest there regularly.

Goethe, Friedrich. UBER DIE DEUTSCHE BUCHT HEIMZIEHENDE KANADAGÄNSE (BRANTA CANADENSIS). [CANADA GEESE (BRANTA CANADENSIS) FLYING HOME OVER THE GERMAN BAY AREA.] Vogelwarte 22(3/4): 275-276. 1964. [From Biol. Abstr. 48 (7), 1967. In German.] WR 127: 63

Guiler, Eric R. THE BREEDING OF THE BLACK SWAN (CYGNIS ATRATA LATHAM) IN TASMANIA WITH SPECIAL REFERENCE TO SOME MANAGEMENT PROBLEMS. Pap. Proc. Roy. Soc. Tasmania 100: 30-52, illus. 1966. [From Biol. Abstr. 48(2), 1967.] WR 127: 63
[Univ. Tasmania, Hobart, Tasmania, Australia.]

Guiler, Eric R. THE CAPE BARREN GOOSE, ITS ENVIRONMENT, NUMBERS AND BREEDING. Emu 66(3): 211-235, 3 figs., 3 pls. Feb. 1967. WR 127: 63
[Univ. Tasmania, Hobart, Tasmania, Australia.] Description, environment, numbers, nest and egg, molt, production, banding and a general discussion of Coreopsis novae-hollandiae.

Hall, A. B., and G. P. Arnold. BRIEF OBSERVATIONS ON A PAIR OF RED-THROATED DIVERS (GAVIA STELLATA) NESTING IN EAST GREENLAND. Dansk Ornithol. Forenings Tidsskr. 60(3): 141-145, 1 fig. Sept. 1966. In English with Danish summ. WR 127: 63
[Arnold: Fisheries Lab., Lowestoft, Suffolk, England.]

Havlin, Jiri. [BREEDING SEASON AND CLUTCH SIZE IN THE EUROPEAN POCHARD, AYTHYA FERINA, AND THE TUFTED DUCK, A. FULIGULA, IN CZECHOSLOVAKIA.] Zool. Listy 15(2): 175-189, illus. 1966. [From Biol. Abstr. 48(7), 1967. With English summ.] WR 127: 63
[Inst. Vert. Zool., Czech. Acad. Sci., Brno, Czechoslovakia.]

Henny, Charles J. ESTIMATING BAND-REPORTING RATES FROM BANDING AND CRIPPLING LOSS DATA. J. Wildl. Mgmt. 31(3): 533-538, 1 fig. July 1967. WR 127: 63
[Oreg. State Univ., Corvallis.] Abstract: A new method for estimating band-reporting rates (proportion of bands recovered by hunters that are reported to the Bird Banding Laboratory) is described. This method is dependent upon components obtained from banding data (direct recovery rate, annual mortality rate, and annual natural mortality rate) and crippling loss information. These data are to a large degree already available for waterfowl. The results obtained in my example, involving data from the dusky Canada goose (Branta canadensis occidentalis), are in close agreement with band-reporting rates determined for other subspecies of geese in 1966 by Martinson and McCann who used a mail questionnaire survey. The band-reporting rate for the subspecies studied has declined significantly from 49.1 percent for the period 1953-60, to 33.2 percent in 1962 and 1963.

Hout, Jerry L. CONTRIBUTION TOWARD A BIBLIOGRAPHY ON BRANT. US F&WS, Spec. Sci. Rept.--Wildl. no. 103. 15 p. May 1967. WR 127: 64
"This bibliography was prepared to facilitate collection of information useful in management or in planning additional studies on the refuge. Publication of the bibliography in its present form may help others who are similarly concerned with this species. Emphasis was placed on locating references to the Pacific black brant (Branta bernicla nigricans) but references to the Atlantic brant (Branta bernicla horta) have been included."

Johnson, A. W. THE GIANT COOT FULICA GIGANTEA EYDOUX AND SOULEYET. Bull. British Ornithol. Club 84: 170-172. 1964. [From Ibis 109(3), 1967.] WR 127: 64

Jones, H. L. THE FULVOUS TREE DUCK IN THE EAST: ITS PAST AND PRESENT STATUS. Chat 30(1): 4-7, 1 fig. Mar. 1966. WR 127: 64
[N.C. State Univ., Raleigh.] "Only ten years ago the fulvous tree duck (Dendrocygna bicolor) was considered to be an accidental stray anywhere in the United States outside of its breeding range. Today it is an established winter resident from Florida to Virginia and a regular visitor to the Northeast. It is beginning to spread inland in winter as far as Michigan, Ohio, and Tennessee."--Courtesy/ Paul A. Stewart.

Klopper, Peter H. STIMULUS PREFERENCES AND IMPRINTING. Science 156(3780): 1394-1396, 4 figs. 9 June 1967. WR 127: 64
[Duke Univ., Durham, N.C.] Abstract: Pekin ducklings were tested with respect to their preference for approaching one of two simultaneously presented, rotating, silent duck decoys, painted in a variety of colors or patterns. Some of the ducklings had not been given any previous visual experience other than that gained in a 20-minute introduction to the empty apparatus; others had previously been given the opportunity to follow one particular decoy for 20 minutes. The decoys could be grouped into three categories: those in the first category were treated as equivalent, that is, so long as the duckling had followed one of these models it would approach either. The decoys of the second category were ones to which "imprinting" occurred, that is, the ducklings showed a decided preference for the model they had originally followed, whichever it was. The third category included models, one of which was always preferred, though the controls showed no such preference. The effects of the imprinting procedure vary with the stimuli presented.

LeFebvre, Eugene A., and Dennis G. Raveling. DISTRIBUTION OF CANADA GEESE IN WINTER AS RELATED TO HEAT LOSS AT VARYING ENVIRONMENTAL TEMPERATURES. J. Wildl. Mgmt. 31(3): 538-546, 1 fig. July 1967. WR 127: 64
[Southern Ill. Univ., Carbondale.] Abstract: By means of thermal modeling, the heat loss of an organism under varying conditions can be calculated. This paper utilizes this technique and discusses the heat balance for two different sized races of Canada geese (Branta canadensis maxima and B. c. parvipes). We conclude that the northernmost limits of distribution for these subspecies can be predicted from the calculated heat losses and the extended maintenance level of energy intake attained under natural environmental conditions. The relationship between body surface heat-generating potential helps explain the role of temperature as a factor limiting animal distribution, as illustrated by Bergmann's rule. Some management implications are discussed with regard to the factors limiting northern wintering distributions in the Canada goose.

Lemmetyinen, Risto. JÄTEÖLJYN VESILINNUILLE AIHEUTTAMISTA TUHOISTA ITÄMEREN ALUEELLA. [DAMAGE TO WATERFOWL IN THE BALTIC AREA CAUSED BY WASTE OIL.] Suomen Riista 19: 63-71, 2 figs. 1966. In Finnish with English summ. WR 127: 64
Oil damage reduces the waterfowl populations. The number of long-tailed ducks migrating through Finland in 1958-60 was one tenth of what it had been in 1937-40. A decrease in the numbers of velvet scoters (Melanitta fusca) has also been noted in Sweden. Oil damage in Finland is less because the effect

of the Gotland dumping area does not spread as far as Finland. Moreover, the number of waterfowl wintering in Finland is small. The greatest oil damage to waterfowl occurred in 1949, 1951 and 1955. The greatest catastrophe in Finland was in January 1955 in Southern Åland. It is estimated that 10,000 birds were killed. From 1959 to 1965, according to the archives of the Game Research Institute, large numbers (several hundred individuals) of oil-damaged birds have been found only three times. Other observations made in the 1960's have been limited to some random, slightly oil-damaged individuals probably arriving from the southern Baltic.--From summ.

Lorenz, K. Z. THE TRIUMPH CEREMONY OF THE GREYLAG GOOSE, ANSER ANSER L. Phil. Trans. Roy. Soc. London Ser. B Biol. Sci. 251(772): 477. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 65

MacInnes, Charles D. NECKBANDED SNOW, BLUE, AND CANADA GEESE--THE McCONNELL RIVER PROJECT. N. Dak. Outdoors 29(9): 2-6, illus. Mar. 1967. WR 127: 65
[Univ. Western Ontario, London, Canada.] Description of the construction and effective use of aluminum neckbands for marking individual geese. Colored plastic film tape (1.5 inches wide) was attached to the bands. Lettering consisted of .25-inch strips of this same tape of a contrasting color. A symbol pair was assigned to each neckband from the 66-letter "alphabet." During two seasons on one study area 4400 blue and snow geese were marked.

Mayaud, N. CONTRIBUTION A L'HISTOIRE DE NETTA RUFINA (PALLAS) LA NETTE À HUPPE ROUSSE EN EUROPE OCCIDENTALE. [CONTRIBUTIONS TO THE HISTORY OF THE RED-CRESTED POCHARD (NETTA RUFINA (PALLAS)) IN WESTERN EUROPE.] Alauda 34(3): 191-199. 1966. [From Ibis 109(3), 1967. In French.] WR 127: 65

Moisan, Gaston. THE GREEN-WINGED TEAL IN THE ATLANTIC FLYWAY. Naturaliste Canadien 93(2): 69-88, 3 figs. Mar.-Apr. 1966. In English with French summ. WR 127: 65
[Laval Univ., Quebec, Canada.] Abstract: An analysis was conducted of all green-winged teal banded in North America through 1961. The present paper deals specifically with the green-winged teal in the eastern Provinces and the Atlantic flyway. The breeding range has its center of abundance in the southern Mackenzie District, N.W.T., and the lowest density is found in the boreal forest of Quebec and Ontario. Only four or five percent of the continental population winter on the East Coast, primarily in South Carolina. Banding recoveries indicate that the teal breeding in central and western Canada contribute very little to the Atlantic flyway harvest. The kill in eastern North America averaged 100,000 birds a year between 1946 and 1961. The recovery rate of summer banded birds averaged 7.5 percent and the kill rate between 15 and 20 percent of the population. The green-winged teal had a high annual mortality rate averaging 67 percent. The continental average was estimated at 63 percent (70 percent for immatures and 50 percent for adults) and variations were directly related to hunting pressure. The continental population estimate between 1946 and 1961 ran from seven to ten million birds of which eight percent occurred in the Atlantic flyway. Age and sex ratios are also discussed as well as differential migration in relation to sex and age.

Moisan, Gaston, Robert I. Smith, and R. Kahler Martinson. THE GREEN-WINGED TEAL: ITS DISTRIBUTION, MIGRATION, AND POPULATION DYNAMICS. US F&WS, Spec. Sci. Rept.--Wildl. no. 100. viii + 248 p., [88] figs. Apr. 1967. For sale by Supt. Documents, GPO, Washington, D.C. at $1.25. WR 127: 65
[Laval Univ., Quebec, Canada.] In this study, published information on green-winged teal was reviewed and data from banding and other surveys used to derive the distribution, migration, harvest characteristics and population dynamics of the species. The green-winged teal ranks second or third among game ducks in the harvest in the Central and Mississippi Flyways, third or fourth in the Pacific Flyway and fifth or sixth in the Atlantic Flyway. During the last 10 years, about one million green-winged teal were harvested annually

and the species was available to hunters of each Province and State on the continent. The possible role of the green-winged teal as a buffer species for other species could not be demonstrated. The species importance in the harvest did not seem related to the abundance of mallards or to changes in hunting regulations during the period 1960-63. The average annual mortality rate for the continental population of green-winged teal was 63 percent; 70 percent for immatures and 50 percent for adults. The mortality rate, especially that of adults, was directly related to rate of kill. Because the rate of kill was influenced indirectly by hunting regulations (through hunting pressure), hunting regulations have affected the survival of green-winged teal.--From summ. & concl.

Molodovskii, A. V. [THE WHOOPER SWAN ON SOUTH MANGYSHLAK.] Ornitologiya 7: 481. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I653. Transl. of Russian abstr.] WR 127: 66

Nilsson, Leif. AND FAGELSTUDIER I TROLLHATTETRAKTEN 1959-1964. [DUCK STUDIES IN THE NEIGHBORHOOD OF TROLLHATTAN (58°20' N, 12°20' E) IN 1959-64.] Fauna Flora 1/2: 27-45, illus. 1965. [From Biol. Abstr. 48(7), 1967. In Swedish with English summ.] WR 127: 66

Nilsson, Leif. IAKTTAGELSER RÖRANDE KNIPANS (BUCEPHALA CLANGULA) PUTSNINGSBETEENDE. [STUDIES ON THE PREENING BEHAVIOUR OF THE GOLDENEYE (BUCEPHALA CLANGULA).] Vår Fågelvärld 24(4): 301-309, illus. 1965. [From Biol. Abstr. 48(1), 1967. In Swedish with English summ.] WR 127: 66
[Jarnakravagen 3A:409, Lund, Sweden.]

Nuorteva, Pekka, and Tapani Ormio. THE INSECT FAUNA OF THE NESTS OF THE GOLDENEYE, BUCEPHALA CLANGULA (L.). Ann. Ent. Fenn. 31(3): 208-219, 1 fig. 1965. WR 127: 66
[Univ. Helsinki, Helsinki, Finland.]

Pageau, Gerard. LES ANATIDAE DE LA RÉGION DE MONTRÉAL AVEC MENTION SPECIALE POUR CEUX DU LAC ST. LOUIS. [ANATIDAE IN THE MONTREAL (CANADA) REGION WITH SPECIAL MENTION OF THOSE FROM THE ST. LOUIS LAKE.] Quebec Serv. Faune Rapp. 3: 298-311. 1964. [From Biol. Abstr. 48(9), 1967. In French.] WR 127: 66

Palm, V. EIN BEITRAG ZUR HELMINTHEN FAUNA DES BLESSHUHNS (FULICA ATRA L.) AUS DEM RAUM VON POTSDAM. [A CONTRIBUTION TO THE HELMINTH FAUNA OF THE COOT IN THE VICINITY OF POTSDAM.] Acta Parasitol. Polonica 13: 425-444. 1965. [From Auk 84(3), 1967. In German with Polish summ.] WR 127: 66

Roslien, D. J., and A. O. Haugen. OCCURRENCE OF HAEMOPROTEUS NETTIONIS IN WOOD DUCKS (AIX SPONSA L.). Proc. Iowa Acad. Sci. 71: 235-240. 1964. [From Ibis 109(3), 1967.] WR 127: 66
A protozoan parasite, found in 71 wood ducks in September on the Upper Mississippi Refuge, is described. It was absent from 68 wood ducks taken in July and August from a refuge in northcentral Iowa.

Sainio, Pekka. METSÄHANHEN ISTUTUSKOKEILU. [EXPERIMENTAL INTRODUCTION OF BEAN GOOSE (ANSER FABALIS) IN WESTERN PARTS OF CENTRAL FINLAND.] Suomen Riista 19: 94-99, 3 figs. 1966. In Finnish with English summ. WR 127: 66

Schutz, F. SEXUELLE PRÄGUNG BEI ANATIDEN. [SEXUAL IMPRINTING IN ANATIDAE.] Z. Tierpsychol. 22: 50-103. 1965. [From Auk 84(3), 1967. In German.] WR 127: 66
A detailed experimental study of sexual imprinting in 10 species of anatids.

Shaver, Raymond A. LAND USE FOR THE WILD GOOSE. Pa. Game News 38(1): 7-13, illus. Jan. 1967. WR 127: 66
A popular account outlining the habitat needs (nesting, brood, and migration) and management practices for Canada geese.

Sokol'skii, S. M. [FLIGHT OF WATERFOWL IN THE UPPER PART OF THE PECHORA RIVER. (RESULTS OF OBSERVATIONS MADE BETWEEN 1956 AND 1960).] Trudy Pechoro-Ilychskogo Gos. Zapovednika 1: 83-124. 1964. [From Biol. Abstr. 48(5), 1967, from Referat. Zhur., Biol., 1965, no. 4I191. Transl. of Russian abstr.] WR 127: 67

Stichmann, Wilfried, and Arend Timmerman. DURCHZUG UND UBERWINTERUNG DE GÄNSE IN NORDDEUTSCHLAND, DEN NIEDERLANDEN UND BELGIEN 1960/61, 1961/62 UND 1962/63. [TRANSIT AND OVERWINTERING OF GEESE IN NORTHERN GERMANY, THE NETHERLANDS, AND BELGIUM IN 1960-61, 1961-62, and 1962-63.] Vogelwarte 23(2): 140-148, illus. 1965. [From Biol. Abstr. 48(7), 1967. In German with English summ.] WR 127: 67

Tamisier, A. DÉNOMBREMENTS D'ANATIDÉS HIVERNANT EN CAMARGUE, HIVER 1964-65. [CENSUSES OF WINTERING DUCKS AT CAMARGUE DURING THE WINTER OF 1964-65.] Alauda 33: 265-293. 1965. [From Ibis 109(3), 1967. In French.] WR 127: 67

Trefethen, James B., editor. WOOD DUCK MANAGEMENT AND RESEARCH: A SYMPOSIUM. THEME: EMPHASIZING MANAGEMENT OF FORESTS FOR WOOD DUCKS. Wildl. Mgmt. Inst. (Washington, D.C.). vi + 212 p. 1966. Copies may be purchased from Wildlife Management Institute, 709 Wire Bldg., Washington, D.C. WR 127: 67

Technical papers included: Present and future status of forests of the north central forests, Forest Stearns; Impact of forest management on northern wood duck habitat, W. A. Aultfather; Impact of forest management on southeastern habitat, D. J. Hankla and V. E. Carter; Influence of flood-plain zoning on wood duck habitat, F. W. Collins and C. Brown; Problems in flyway-wide appraisal of wood duck habitat, A. S. Hawkins and C. E. Addy; A plan for developing wetland habitat on public lands, J. Mathisen; Silvical characteristics of tree species related to cavities, H. L. Hansen; Providing brood habitat for wood ducks, C. G. Webster and F. B. McGilvrey; Management of mast crops for wood ducks, C. K. Brakage; Meeting management objectives for wood ducks, H. H. Dill; Survey of wood duck nest sites on Mingo Wildlife Refuge, R. Wayne Weier; Experiences with home-grown wood ducks, Frederic Leopold; Characteristics and values of artificial nesting cavities, F. C. Bellrose and F. B. McGilvrey; An evaluation of hand-reared wood ducks at George Island, R. A. Hunt and C. F. Smith; The role of artificial propagation in wood duck management, F. B. Lee and H. K. Nelson; Distribution and density of wood ducks in eastern Canada, M. M. Smith; The value of roost counts as a population index for wood ducks, F. E. Hester; Influence of hunting regulations on wood duck population levels, H. M. Reeves; Information needed and procedures for establishing status of the wood duck population, A. D. Geis; Successes and problems in supplying wood duck population status information: Mississippi Flyway, R. Barratt; Successes and problems in supplying wood duck population status information: Atlantic Flyway, G. F. Pushee, Jr.

Wood, Jack S., and Wendell F. Hofman. PERIPHERAL BLOOD RESPONSE TO REPRODUCTIVE STIMULATION IN MALLARDS. J. Wildl. Mgmt. 31(3): 546-554. July 1967. WR 127: 67

[Western Mich. Univ., Kalamazoo.] Abstract: This study examined the use of several blood parameters to monitor reproductive response to environmental conditions. The fluctuation of serum proteins and the concentrations of three ions were examined in relation to natural and artificial reproductive stimulation in the mallard (Anas platyrhynchos). Blood samples were collected weekly on one untreated group of birds and at 2- or 3-day intervals on individuals during artificial stimulation experiments. Hormonal treatment consisted of periodic injections of either 17- "B" -estradiol or a crude solution of ground chicken pituitary glands. The duration of the study was from October 14, 1965, to March 3, 1966. Of the three ions analyzed (K^+, Ca^{++}, Na^+), only calcium levels showed a consistent correlation with both natural and artificial stimulation. Serum calcium values had a mean of 10.8 mg/100 mg during the unstimulated period; a mean of approximately 15 mg/100 mg during

stimulation but before egg laying; and levels in excess of 18 mg/100 mg after egg laying began. Serum protein levels show that reproductive stimulation resulted in increased total protein, reduced albumin, and increased globulin fractions. The results produced a shift in the albumin-to-globulin ratio from a mean of 2.0 before stimulation, to approximately 0.9 during stimulation but before egg laying, and a value less than 0.8 during active laying. All of the serum changes observed during natural reproductive development were duplicated by 17- "B" -estradiol treatment alone.

Young, Colin M. OVERLAND MIGRATION OF DUCK BROODS IN A DROUGHT-FREE AREA. Canadian J. Zool. 45(3): 249-251, 1 fig. May 1967. WR 127: 68
[Univ. Guelph, Guelph, Ontario, Canada.] Abstract: Four cases are recorded of duck broods near Sudbury, Ontario, migrating overland from deep, permanent lakes to shallow beaver ponds. This contrasts with the situation on the prairies where the movement is usually from shallow sloughs to deeper ones.

Zmudzinski, Ludwik. OBSERWACJE FENOLGICZNE NAD ZIMOWANIEM PTAKÓW WODNYCH W GDYNI. [PHENOLOGICAL OBSERVATIONS OF WINTERING WATER BIRDS IN GDYNIA.] Acta Ornithol. 8(2): 67-95, illus. 1964. [From Biol. Abstr. 48(2), 1967. In Polish with Russian and English summ.] WR 127: 68

CRANES, RAILS, SHOREBIRDS

Appert, O. BEITRAG ZUR BIOLOGIE UND ZUR KENNTNIS DER VERBREITUNG DES MADAGASCAR-MÄHNENIBISSES, LEPHOTIBIS CRISTATA (BODDAERT). [CONTRIBUTION TO THE BIOLOGY AND TO THE KNOWLEDGE OF THE DISTRIBUTION OF THE CRESTED IBIS OF MADAGASCAR.] J. Ornithol. 107: 315-322. 1966. [From Auk 84(3), 1967. In German.] WR 127: 68

Bailey, R. S. MIGRANT WADERS IN THE INDIAN OCEAN. Ibis 109(3): 437-439. July 1967. WR 127: 68
[British Trust Ornithol., Beech Grove, Tring, Hertfordshire, England.]

Bergman, Goran. TRUTARNAS KONKURRENSFORHALLANDEN, FODOBEHOV OCH RELATIONER TILL ANDRA SKÄRGARDSFAGLAR. [GULLS: THEIR COMPETITION, FOOD NEEDS, AND RELATIONS TO OTHER COASTAL BIRDS.] Zool. Revy 27(3): 58-77, illus. 1965. [From Biol. Abstr. 48(7), 1967. In Swedish with German summ.] WR 127: 68

Borodulina, T. L. ECOLOGY AND MORPHOLOGY OF BIRDS AND MAMMALS. NO. 32. BIOLOGY AND ECONOMIC IMPORTANCE OF GULLS AND TERNS OF SOUTHERN-USSR WATER BODIES. Published for the U.S. Dept. Interior and the National Science Foundation by the Israel Program for Scientific Translations (Jerusalem). TT 66-51054. i + 132 p., 55 figs. 1966. Russian original published by Izdat. Akad. Nauk SSSR (Moscow) in 1960. [Translation available from U.S. Dept. Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. Price $4.00.] WR 127: 68
Following an introductory chapter there are chapters on the biology of the Laridae (individual accounts of 14 spp. of gulls and tern that nest in southern USSR), the ecological and morphological survey of the Laridae, economic importance, endoparasites, the role of gull colonies in water bodies, exploitation of gull eggs as food, and conclusions. There is a 15-page bibliography.

Bravery, J. A. WADERS OF TINAROO DAM, NORTH QUEENSLAND. Emu 64(1): 61-64. Oct. 1964. WR 127: 68
[PO Box 178, Atherton, Queensland, Australia.] Summary: Observations are recorded on the seasonal occurrence, numbers, and status of 24 species of waders, including 13 Palaearctic migrants, at Tinaroo Dam near Atherton, North Queensland, during 1958-64. The receding shoreline, created by the release of water for irrigation and hydro-electric power during the spring and summer months, provides an environment that appears to be increasingly attractive to waders on the dam and its vicinity.

Brown, R. G. B. SPECIES ISOLATION BETWEEN THE HERRING GULL LARUS ARGENTATUS AND LESSER BLACK-BACKED GULL L. FUSCUS. Ibis 109(3): 310-317, 1 fig. July 1967. WR 127: 69

[Dalhousie Univ., Halifax, Nova Scotia, Canada.] Herring gulls and lesser black-backs are adapted to slightly different niches. The overlap is so great, however, that any hybrid is unlikely to be at a disadvantage; but the overlap can only have arisen very recently, as a result of both species taking advantage of the increased availability of human refuse. It is possible that the isolation mechanism was evolved to cope with earlier conditions, when food was more limited, and the species' niches more sharply defined.--From summ.

Engels, Wolf, Mathilde Esser, and Hinrich Rahmann. ANLOCKUNG NÄCHTLICH ZIEHENDER KRANICHE (GRUS GRUS) DURCH GROSSTADTLICHTER. [THE LURE OF THE LIGHTS OF BIG TOWNS FOR NOCTURNALLY MIGRATING CRANES (GRUS GRUS).] Vogelwarte 22(3/4): 177-178. 1964. [From Biol. Abstr. 48(1), 1967. In German.] WR 127: 69

Gillham, M. E. THE VEGETATION OF LOCAL COASTAL GULL COLONIES. Trans. Cardiff Nat. Soc. 91: 23-33. 1964. [From J. Animal Ecol. 36(2), 1967.] WR 127: 69

Describes the ways in which gulls modify the vegetation at their breeding colonies, and the association of different species of gull with different types of vegetation, for gulleries on Flatholm and Steepholm Islands in the Bristol Channel, and at two sites on the mainland coast of South Wales.

Goudy, William H., compiler. WOODCOCK RESEARCH AND MANAGEMENT, 1966. US F&WS, Spec. Sci. Rept.--Wildl. no. 101. iv + 40 p., illus. Apr. 1967. WR 127: 69

[Migratory Bird Populations Sta., Laurel, Md.] Abstract: Surveys designed to determine the population status of American woodcock indicate little change in recent continental breeding populations, but a continuing decline in production. The annual harvest of this species, meanwhile, continues to soar with an apparent upsurge in hunters' awareness of the woodcock's sporting qualities. Research activities continue to uncover information related to the reliability of singing-ground surveys while banding operations in La., Me., Mich., and W. Va. testify to the feasibility of expanding this very important program throughout North America. West Virginia has contributed significantly to this program through its improvement of the night-lighting technique which was developed in association with their primary objective of evaluating the importance of hunting as a mortality factor. Woodcock bandings and recoveries from the Moosehorn National Wildlife Refuge are being examined to determine more about the characteristics of this lightly harvested population and to better understand their use of various habitat types.

Haas, G. JUNGENVERLUSTE BEI WEISSSTORCH-GEHECKEN MIT ZWEIERLEI ALTERS-GRUPPEN. [JUVENILE MORTALITY IN WHITE STORK BROODS WITH DIFFERENT AGE GROUPS.] Vogelwarte 23: 300-305. 1966. [From Auk 84(3), 1967. In German.] WR 127: 69

Lists several observations of mortality of small, young white storks in nests where an unusual age difference existed within the brood.

Hansen, Magnus Bang. VADEFUGLETRAEK PÅ FED, PRAESTØ FJORD JUNI-AUGUST 1953 OG 1954. [MIGRATION OF WADERS AT FED, PRAESTØ FJORD, JUNE-AUGUST 1953 AND 1954. Dansk Ornithol. Forenings Tidsskr. 60(4): 163-174, 8 figs. Dec. 1966. In Danish with English summ. WR 127: 69

[Fyrrebakken 5, Sdr. Nyrup pr. Kalundborg, Denmark.]

Helbig, Lothar, and Joachim Neumann. BEOBACHTUNGEN AN EINEM SCHLAFPLATZ VON LACHMÖWEN (LARUS RIDIBUNDUS). [OBSERVATION ON A SLEEPING PLACE OF THE BLACK-HEADED GULL (LARUS RIDIBUNDUS).] Vogelwarte 22(3/4): 161-168, illus. 1964. [From Biol. Abstr. 48(2), 1967. In German.] WR 127: 69

Hewson, Raymond. TERRITORY, BEHAVIOUR AND BREEDING OF THE DIPPER IN BANFFSHIRE. British Birds 60(6): 244-252, 2 figs. June 1967. WR 127: 70
Based on the observations of 27 adult and 38 nestling Cinclus cinclus during 1959-1964.

Hickling, R. A. O. THE INLAND WINTERING OF GULLS IN ENGLAND, 1963. Bird Study 14(2): 104-113. June 1967. WR 127: 70
Summary: A census of gulls wintering inland, carried out in 1952/3, was repeated in 1963. A summary of total numbers shows a large increase, of the order of 50 per cent, from approximately 333,000 to 504,000. Increases accounted for by new and additional roosts since 1953 total 252,000; increases at continuing roosts total 113,000; and losses from disused or unreported roosts total 186,000.

Ivanova, N. S. [BIOLOGY OF THE COMMON SANDPIPER IN LENINGRAD OBLAST.] Vestnik Leningr. Univ. 21(2): 23-32, illus. 1966. [From Biol. Abstr. 48(6), 1967. In Russian with English summ.] WR 127: 70

Karl, Bohumil. FUNCTIONAL ADAPTATIONS OF CICONIIFORMES TO THE DARTING STROKE. Vestnik Cesk. Spolecnosti Zool. 29(4): 377-391, illus. 1965. [From Biol. Abstr. 48(3), 1967.] WR 127: 70

Körner, Helge Klaus. ZUR EIROLLBEWEGUNG DER KÜSTENSEESCHWALBE (STERNA MACRURA NAUM.). [ON THE EGG-ROLLING MOVEMENT OF THE ARCTIC TERN.] Z. Tierpsychol. 23(3): 315-323. 1966. [From Bird-Banding 38(2), 1967. In German with English summ.] WR 127: 70

Kumerloeve, H. A PROPOS DE L'AIRE DE REPRODUCTION DE L'HUITRIER-PIE EN ASIE MINEURE ET NOTAMMENT EN TURQUIE. [CONCERNING THE REPRODUCTION AREA OF THE OYSTERCATCHER IN ASIA MINOR AND ESPECIALLY IN TURKEY (HAEMATOPUS OSTRALEGUS).] Oiseau Rev. Franc. D'Ornithol. 36(3/4): 252-255. 1966. [From Biol. Abstr. 48(11), 1967. In French.] WR 127: 70

Kumerloeve, Hans. ZU BRUTVERBREITUNG UND DURCHZUG DES WEISSSTORCHES, C. CICONIA (L.) IN KLEINASIEN. [BREEDING PLACES AND PASSAGE OF THE WHITE STORK CICONIA CICONIA (L.) IN ASIA MINOR.] Vogelwarte 23(3): 221-224. 1966. [From Biol. Abstr. 48(4), 1967. In German.] WR 127: 70

Martens, Jochen. BRUTVORKOMMEN UND ZUGVERHALTEN DES WEISSSTORCHS (C. CICONIA) IN GRIECHENLAND. [DISTRIBUTION AND MIGRATION OF THE WHITE STORK (CICONIA CICONIA) IN GREECE.] Vogelwarte 23(3): 191-208, illus. 1966. [From Biol. Abstr. 48(1), 1967. In German with English summ.] WR 127: 70
[Univ. Mainz, Mainz, Germany.]

Mascher, J. W., and I. Frycklund. ÜBER DAS TUPFELSUMPFHUHN (P. PORZANA) IM FRÜHLING UND HOCHSOMMER IN NORDUPPLAND, MITTELSCHWEDEN. [ON THE SPOTTED CRAKE (PORZANA PORZANA) IN SPRING AND MIDSUMMER IN NORDUPPLAND, CENTRAL SWEDEN.] Vogelwarte 23: 289-291. 1966. [From Auk 84(3), 1967. In German.] WR 127: 70

Mitchell, G. J. THE UPLAND PLOVER AND ITS STATUS IN RELATION TO ENVIRONMENTAL CONDITIONS AND SITUATIONS, PAST AND PRESENT. Blue Jay 25(2): 58-63, 1 fig. June 1967. WR 127: 70
[Univ. Saskatchewan, Regina, Canada.] "Bartramia longicauda."

Norton-Griffiths, M. SOME ECOLOGICAL ASPECTS OF THE FEEDING BEHAVIOUR OF THE OYSTERCATCHER HAEMATOPUS OSTRALEGUS ON THE EDIBLE MUSSEL MYTILUS EDULIS. Ibis 109(3): 412-424, 9 figs. July 1967. WR 127: 70
[Univ. Oxford, Oxford, England.] Summary: Oystercatchers have two methods of opening mussels, both neatly adapted to the structure of the prey. To open mussels exposed by the tide, the bird hammers a hole along the ventral margin of the shell, whereas to open mussels under water, the bird drives its bill

into the gape of the valves to cut through the posterior adductor muscle. Large and strong-shelled mussels can be opened by stabbing but not by hammering. Feeding methods of oystercatchers vary from mussel-bed to mussel-bed. These variations in behaviour are attributable to differences in the strength of the shells of the prey and to the firmness of their attachment to the substrate. Diversity of ecological conditions on the mussel-beds causes an apparent size selection of prey by oystercatchers.

Novakowski, N. S. THE WHOOPING CRANE. Modern Game Breeding 3(6): 19-25, 35-41, 43, illus. Apr. 1967. WR 127: 71

The material of the author's Whooping crane population dynamics on the nesting grounds, Wood Buffalo National Park, Northwest Territories, Canada is repeated in slightly different format. This makes this information available to another group of readers. [See WR 124: 60 for a listing of this Canadian Wildlife Service report.]

Sterbetz, Istvan. DER ZUG DES MORNELLREGENPFEIFERS IN EUROPA. [MIGRATION OF CHARADRIUS MORINELLUS IN EUROPE.] Aquila 71/72: 174-177. 1964/65. [From Biol. Abstr. 48(11), 1967. In Hungarian and German.] WR 127: 71

Sutton, George Miksch. BEHAVIOUR OF THE BUFF-BREASTED SANDPIPER AT THE NEST. Arctic 20(1): 3-7 + 1 color pl. Mar. 1967. With French and Russian abstr. WR 127: 71

[Univ. Okla., Norman.] Abstract: Observations of the Buff-breasted Sandpiper (Tryngites subruficollis) on Victoria and Jenny Lind islands in 1962 and 1966 suggest that the female is solely responsible for incubation and brood-rearing and that the species is polygamous. Males collected in June and July were without brood-patches but in each specimen the skin of the chin and throat was vascularized. A female flushed from eggs 12 June 1966, did not feign injury but when flying close to observer slowed speed by allowing legs to dangle.

Threlfall, William. STUDIES ON THE HELMINTH PARASITES OF THE HERRING GULL, LARUS ARGENTATUS PONTOPP., IN NORTHERN CAERNARVONSHIRE AND ANGLESEY. Parasitology 57(3): 431-453, 6 figs. Aug. 1967. WR 127: 71

[Memorial Univ. Newfoundland, St. John's, Newfoundland, Canada.]

Tinbergen, N. RITUALIZATION OF COURTSHIP POSTURES OF LARUS RIDIBUNDUS L. Phil. Trans. Roy. Soc. London Ser. B Biol. Sci. 251(772): 457. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 71

Vadkowski, V. B. [THE FEEDING HABITS OF THE COMMON HERON (ARDEA CINEREA) UNDER THE CONDITIONS PREVAILING IN SOME FISH POND FARMS IN BELORUSSIA.] Vyestsi Akad. Navukk Byelaruskai SSR Syeryya Biyalahichnykh Navuk 3: 104-108, illus. 1965. [From Biol. Abstr. 48(5), 1967. In Belorussian with Russian summ.] WR 127: 71

Weller, Milton W. NOTES ON SOME MARSH BIRDS OF CAPE SAN ANTONIO, ARGENTINA. Ibis 109(3): 391-411, 3 figs. + 2 pls. July 1967. WR 127: 71

[Iowa State Univ., Ames.] A list of the marsh birds of the area is given, and comments are presented on the ecology and behavior of selected species.--From summ.

HAWKS & OWLS

Adamyan, M. S., B. O. Geilikman, N. A. Markaryan, and K. A. Yudin. [NESTING OF THE OWL AEGOLIUS FURNEREUS CAUCASICUS IN ARMENIA.] Biol. Zhur. Armenii 19 (2): 106-108, illus. 1966. [From Biol. Abstr. 48(4), 1967. In Russian.] WR 127: 71

[Zool. Inst., Acad. Sci. Arm. SSR, Erevan, USSR.]

Andersen-Harild, Pelle, C. A. Blume, Erik Kramshøj, and O. Schelde. INVASIONEN AF SNEUGLE (NYCTEA SCANDIACA (L.)) I DANMARK I 1961-62. [THE INVASION OF SNOWY OWL (NYCTEA SCANDIACA) IN DENMARK IN 1961-62.] Dansk Ornithol. Forenings Tidsskr. 60(2): 87-88. June 1966. In Danish with English summ. WR 127: 72

[Norrebrogade 156, Copenhagen, Denmark.]

Baker, J. R. LISTERIOSIS IN A MERLIN (FALCO COLUMBARIUS). Bird Study 14 (2): 114-115. June 1967. WR 127: 72

Encephalitic listeriosis is recorded in a captive merlin. The infection was probably derived from a wild house sparrow.

Balat, Frantisek. HNIZDENI KALOUSE PUSTOVKY ASIO FLAMMEUS (PONTOP.) V JIHOZAPADNI CASTI SLOVENSKA. [NESTING OF ASIO FLAMMEUS (PONTOP.) IN THE SOUTH-WESTERN PART OF SLOVAKIA.] Zool. Listy 14(2): 187-188. 1965. [From Biol. Abstr. 48(4), 1967. In Czech with English summ.] WR 127: 72

Beven, G. THE FOOD OF TAWNY OWLS IN LONDON. London Bird Rep. 29(1964): 56-72. 1965. [From J. Animal Ecol. 36(2), 1967.] WR 127: 72

This study of vertebrate remains in tawny-owl pellets showed that the owls fed mainly on birds (ninety-three prey units) in Central London, fairly equally on mammals (fifty-five prey units) and birds (forty-five prey units) in a suburb 10 miles out and mainly on mammals (ninety prey units) in an oakwood 20 miles out.

Blondel, Jacques. REFLEXIONS SUR LES RAPPORTS ENTRE PREDATEURS ET PROIES CHEZ LES RAPACES.--I. LES EFFETS DE LA PREDATION SUR LES POPULATIONS DE PROIES. [THOUGHTS ON THE INTERACTION BETWEEN PREDATORS AND PREY AMONG RAPTORS.--I. THE EFFECTS OF PREDATION ON THE POPULATION OF PREY SPECIES.] Terre & Vie 1967(1): 5-32, 3 figs. Jan.-Mar. 1967. In French with English summ. WR 127: 72

[Sta. Biol. Tour du Valat, 13 Le Sambue, France.] Bibliography incorporated with Frochet's paper [WR 127: 73] on pages 58-62. It would appear obvious that predation's effect in the communities where it prevails influences their equilibrium in a definite way. The selective efficiency, long established, allows one to think that it plays a significant evolutionary role whose importance has, so far, been unfortunately overlooked.--From summ.

Brosset, André. FECONDITE POTENTIELLE ET FECONDITE REELLE CHEZ LES RAPACES DES REGIONS PRE-SAHARIENNES. [POTENTIAL FECUNDITY AND ACTUAL FECUNDITY AMONG RAPTORS OF AFRICA NORTH OF THE SAHARA.] Terre & Vie 1967(1): 63-75. Jan.-Mar. 1967. In French. WR 127: 72

[Museum Natl. d'Histoire Nat., Brunoy (Essonne), France.] In desert regions where pesticides are not used it was found that the percentage of infertile raptor eggs was high.

Brown, L. H. OBSERVATIONS ON VERREAUX'S EAGLE OWL BUBO LACTEUS (TEMMINCK) IN KENYA. J. East Africa Nat. Hist. Soc. 25: 101-107. 1965. [From Ibis 109 (3), 1967.] WR 127: 72

Bühler, Paul. BRUTAUSFALL BEI DER SCHLEIEREULE UND DIE FRAGE NACH DEM ZEITGEBER FUR DAS REPRODUKTIVE SYSTEM VON TYTO ALBA. [FAILURE OF THE BARN OWL TO BROOD AND THE QUESTION OF THE TIME MECHANISM OF THE REPRODUCTIVE SYSTEM OF TYTO ALBA.] Vogelwarte 22(3/4): 153-158, illus. 1966. [From Biol. Abstr. 48(1), 1967. In German.] WR 127: 72

Chernikin, E. M. [A NOTE ON THE LIFE HISTORY OF THE PACIFIC EAGLE.] Ornitologiya 7: 272-275. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 21418. Transl. of Russian abstr.] WR 127: 72

Frochot, Bernard. REFLEXIONS SUR LES RAPPORTS ENTRE PREDATEURS ET PROIES CHEZ LES RAPACES.--II. L'INFLUENCE DES PROIES SUR LES RAPACES. [THOUGHTS ON THE INTERACTION BETWEEN PREDATORS AND PREY AMONG RAPTORS.--II. THE INFLUENCE OF PREY SPECIES UPON THE RAPTORS.] Terre & Vie 1967(1): 33-62. Jan.-Mar. 1967. In French with English summ. WR 127: 73

[Faculté des Sciences, Boulevard Gabriel, 21 - Dijon, France.] See Blondel [WR 127: 72] for Part I of this discussion. In the long run, the various species of birds of prey have become adapted to certain types of prey species. In some cases, males and females of the same species have a different diet as well as a different adult weight, the females being the largest. This size difference is completely independent of the taxonomic status, but has some connection with the diet. Broadly speaking the more catholic a species in its choice of food, the more noticeable the size difference between the sexes. The "specialized" species have sexes equal in size. Those preying on a variety of preys -- especially insofar as the prey size is concerned -- are those with the greatest differences between the sexes. It appears generally that the more eclectic the diet of a bird of prey the greater the divergence in adult size of both sexes.--From summ.

Ganya, I. M. [AN ECOLOGO-MORPHOLOGICAL CHARACTERIZATION OF MOLDAVIAN DIURNAL BIRDS OF PREY.] In: (Problems of ecology and of the economic importance of Moldavian birds and mammals.) Kartya Moldovenyaske (Kishinev) 2: 34-54. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 11377. Transl. of Russian abstr.] WR 127: 73

Geilikman, B. O. [ECOLOGY OF THE GRIFFON VULTURE IN THE ARMENIAN SSR.] Biol. Zhur. Armenii 19(3): 93-105, illus. 1966. [From Biol. Abstr. 48(10), 1967. In Russian.] WR 127: 73

Godfrey, W. Earl. SOME WINTER ASPECTS OF THE GREAT GRAY OWL. Canadian Field-Nat. 81(2): 99-101. Apr.-June 1967. WR 127: 73

[Natl. Museum Canada, Ottawa, Ontario.]

Hagen, Yngvar. THE FOOD, POPULATION FLUCTUATIONS AND ECOLOGY OF THE LONG-EARED OWL (ASIO OTUS (L.)) IN NORWAY. Meddelelser Fra Statens Viltundersokelser 2(23): 3-38. 1965. [From Biol. Abstr. 48(4), 1967.] WR 127: 73

Hamerstrom, Frances. ON THE USE OF FAULT BARS IN AGEING BIRDS OF PREY. Inland Bird Banding Assoc. News 39(2): 35-41, 5 figs. Mar.-Apr. 1967. WR 127: 73

[Plainfield, Wis.] Fault bars or hunger streaks are weak streaks crossing the vanes of feathers. Relating locations of fault bars to molt stages is a useful adjunct to other methods of aging birds of prey.--Courtesy/ Paul A. Stewart.

Hansen, Jørgen Villerslev. DEN SORTE GLENTES (MILVUS MIGRANS) FOREKOMST I DANMARK. [OCCURRENCE OF THE BLACK KITE (MILVUS MIGRANS) IN DENMARK.] Dansk Ornithol. Forenings Tidsskr. 60(3): 123-127, 1 fig. Sept. 1966. In Danish with English summ. WR 127: 73

[Klovervej 16, Køge, Denmark.]

Heim de Balsac, H. QUELQUES ENSEIGNEMENTS D'ORDRE FAUNISTIQUE TIRÉS DE L'ÉTUDE DU RÉGIME ALIMENTAIRE DE TYTO ALBA DANS L'OUEST DE L'AFRIQUE. [SOME INFORMATION OF FAUNISTIC ARRANGEMENT EXTRACTED FROM THE FOOD HABIT STUDIES OF TYTO ALBA IN WEST AFRICA.] Alauda 33: 309-322. 1965. [From Ibis 109(3), 1967. In French.] WR 127: 73

Hunter, Brian F. ISOLATION OF PASTEURELLA MULTOCIDA FROM A SNOWY OWL (NYCTEA SCANDIACA), A NEW HOST RECORD. Calif. Fish & Game 53(3): 213-214. July 1967. WR 127: 73

[Calif. Dept. Fish & Game, Sacramento.]

Krylov, D. G. [SOME ASPECTS OF THE DISTRIBUTION OF PREDATORY BIRDS IN THE SARYDZHAZ BOGS OF CENTRAL TIEN SHAN.] Ornithologiya 7: 203-208. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I413. Transl. of Russian abstr.] WR 127: 74

Mallette, Robert D., John C. Bornemen, Fred C. Sibley, and Raymond S. Dalen. SECOND COOPERATIVE SURVEY OF THE CALIFORNIA CONDOR. Calif. Fish & Game 53(3): 132-145, 1 fig. July 1967. WR 127: 74

[Calif. Dept. Fish & Game, Sacramento.] Abstract: The second annual California condor (Gymnogyps californianus) survey was conducted October 18 and 19, 1966. Forty-five sightings were reported by 15 of 65 stations manned on October 18, 1966. One hundred twenty-two sightings were reported by 23 of 65 stations manned on October 19, 1966. These sightings, by an evaluation of the reports, were reduced to a population index of 29 and 51 individual birds, respectively, for the 2-day survey. An increase of 13 birds on the second day over the count of 38 in 1965 does not necessarily indicate an increase in the condor population. Better weather, placement of stations, and an increase in the number of observers were factors that could contribute to the increased number tallied in 1966. It becomes increasingly evident that comparative weather conditions are the most important variable affecting this survey. The different results experienced on the first and second days of the 1966 count bear this out. During the second day of the survey 14 young birds were observed, which is approximately 30 percent of the population index. This indicates a satisfactory rate of reproduction.

McCoy, Jean. UNUSUAL PREY FOR OSPREY. Chat 30(4): 108-109. Dec. 1966. WR 127: 74

[1100 Buckingham Rd., Greensboro, N.C.] An osprey was observed carrying a rat, thought to be a rice rat (Oryzomys palustris).--Courtesy/ Paul A. Stewart.

McGahan, Jerome. QUANTIFIED ESTIMATES OF PREDATION BY A GOLDEN EAGLE POPULATION. J. Wildl. Mgmt. 31(3): 496-501. July 1967. WR 127: 74

[Univ. Wis., Madison.] Abstract: In south-central Montana, 702 prey items were recorded during a 3-year survey of 17-19 nesting pairs of golden eagles (Aquila chrysaëtos) on a 1,260-square-mile area. One pair of eagles brought an estimated 490 g of edible food mass per eagle per day to one nest during a 39-day period. An estimated 40-49 prey individuals were taken per eagle over a 100-day period for an average of 19-27 prey individuals taken per 10 square miles per 100 days by the total eagle population. The most important species were white-tailed jackrabbits (Lepus townsendii) and cottontails (Sylvilagus audubonii and S. nuttallii).

Moreau, R. E. THE RE-DISCOVERY OF AN AFRICAN OWL BUBO VOSSELERI. Bull. British Ornithol. Club 84: 47-52. 1964. [From Ibis 109(3), 1967.] WR 127: 74

Mueller, Helmut C., and Daniel D. Berger. OBSERVATIONS ON MIGRATING SAW-WHET OWLS. Bird-Banding 38(2): 120-125. Apr. 1967. WR 127: 74

[Univ. N.C., Chapel Hill.] A total of 213 saw-whet owls (Aegolius acadicus) was mist-netted, including 73 in 52 nights of one autumn. The peak of the migration occurred on 23 Oct.--Courtesy/ Paul A. Stewart.

Murphy, Joseph R. NEST SITE SELECTION BY THE BALD EAGLE (HALIAEETUS LEUCOCEPHALUS) IN YELLOWSTONE NATIONAL PARK. Proc. Utah Acad. Sci. Arts Lett. 42(2): 261-264. 1966. [From Biol. Abstr. 48(6), 1967.] WR 127: 74

[Brigham Young Univ., Provo, Utah.]

Przygodda, W. ÜBER NAHRUNG UND ABWEHR DES FISCHADLERS AN FISCHTEICHEN. [THE FEEDING OF AND THE PROTECTION AGAINST OSPREYS ON FISH PONDS.] Z. Jagdwissenschaft 10(3): 101-115. Sept. 1964. In German with English and French summ. WR 127: 74

During their spring and fall migrations through Westphalia, ospreys (Pandion haliaëtus) cause some damage by killing carp in fish ponds. No effective

frightening device has been developed. The damage is not of the magnitude to justify killing the birds. It is recommended that the government should pay the pond owners for damages and that the birds be allowed to feed unmolested.

Ratcliffe, D. A. DECREASE IN EGGSHELL WEIGHT IN CERTAIN BIRDS OF PREY. Nature 215(5097): 208-210, 2 figs. 8 July 1967. WR 127: 75
[Nature Conservancy, Monks Wood Expt1. Sta., Abbots Ripton, Huntingdon, England.] "For the species examined, frequency of egg-breakage, scale of decrease in eggshell weight, subsequent status of breeding population and exposure to persistent organic pesticides are correlated. The possibility that these phenomena are links in a causal chain is being investigated. Recovery of locally depleted populations of peregrine began in 1946 and continued for several years after eggshells became lighter and egg eating frequent, even in districts, such as Dorset, where both changes were obvious. Population 'crashes' in peregrine and sparrowhawk after 1955 probably involved greatly increased adult mortality, but later factors contributing to low breeding success would tend to prevent recovery."

Sealy, Spencer G. NOTES ON THE BREEDING BIOLOGY OF THE MARSH HAWK IN ALBERTA AND SASKATCHEWAN. Blue Jay 25(2): 63-69, 5 figs. June 1967. WR 127: 75
[Univ. British Columbia, Vancouver, Canada.] Summer studies of Circus cyaneus during 1959-1964.

Shagdasuren, O. [A NOTE ON THE ECOLOGY OF AMUR MERLIN IN MONGOLIA.] Ornitologiya 7: 350-352. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I415. Transl. of Russian abstr.] WR 127: 75

Shchekin, B. V. [A NESTING COLONY OF AMUR MERLIN IN THE TRANSBAIKAL FOREST STEPPE.] Ornitologiya 7: 153-156. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I416. Transl. of Russian abstr.] WR 127: 75

Skinner, Robert W. THE GOLDEN EAGLE IN ALABAMA. Ala. Birdlife 14(2-3): 14-15. Sept. 1966. WR 127: 75
[State Conserv. Dept., Montgomery, Ala.] Sight records of the golden eagle (Aquila chrysaëtos) in 1965.--Courtesy/ Paul A. Stewart.

Stephens, H. A. OBSERVATION ON EAGLES IN KANSAS. Kans. Ornithol. Soc. Bull. 17: 23-25. 1966. [From Auk 84(3), 1967.] WR 127: 75
Of 15 nests, most in heron colonies, none showed any sign of attempts to rear young.

Sulkava, Seppo, and Paavo Rajala. KOTKAN PESIMISAIKAISESTA RAVINNOSTA PORONHOITOALUEELLA. [DIET OF THE GOLDEN EAGLE (AQUILA CHRYSAËTOS) DURING THE NESTING PERIOD IN THE FINNISH REINDEER HUSBANDRY AREA.] Suomen Riista 19: 7-19, 4 figs. 1966. In Finnish with English summ. WR 127: 75
Food habits of golden eagle in Finland are compared with those of golden eagles in the Alps, Scotland, Estonia, Norway and northern Russia.

Thiollay, J. M. LA MIGRATION D'AUTOMNE DES RAPACES DIURNES AUX COLS DE COU ET BRETOLET. [AUTUMNAL MIGRATION OF DIURNAL BIRDS OF PREY THROUGH THE PASSES OF COU AND BRETOLET.] Nos Oiseaux 28: 229-251. 1966. [From Ibis 109(3), 1967. In French.] WR 127: 75
Nineteen raptor species have so far been identified on migration at the alpine passes of Cou-Bretolet (maximum of 3848 individuals in one season, although even at this narrow passage a number are likely to be missed). Analysis of each species' time of passage during the whole autumn, the most common being honey-buzzard followed by kestrel, sparrow-hawk, marsh harrier and common buzzard, the rest making up less than 2% of the total of individuals. 98% of the birds of all species are seen between August 26 and October 24, with a sharp peak around mid-September. Comparison with Falsterbo and the Pyrenees.

Weller, Milton W. HABITAT UTILIZATION OF TWO SPECIES OF BUTEOS WINTERING IN CENTRAL IOWA. Iowa Bird Life 34(3): 58-62, 3 figs. Sept. 1964. WR 127: 76
[Iowa State Univ., Ames.] "Buteo jamaicensis and Buteo lagopus."

Wendland, Victor. DER STRENGE WINTER 1962/63 BEI BERLIN NACH DER BEUTELISTE DES WALDKAUZES (STRIX ALUCO). [THE SEVERE WINTER OF 1962/63 AROUND BERLIN ACCORDING TO THE LIST OF THE PREY OF THE TAWNY OWL (STRIX ALUCO).] Vogelwarte 22(3/4): 158-161. 1964. [From Biol. Abstr. 48(1), 1967. In German.] WR 127: 76

BLACKBIRDS, STARLINGS, CROWS

Bird, Ralph D., and Lawrie B. Smith. THE FOOD HABITS OF THE RED-WINGED BLACKBIRD, AGELAIUS PHOENICEUS, IN MANITOBA. Canadian Field-Nat. 78(3): 179-186. July-Sept. 1964. WR 127: 76
[Canada Dept. Agr., Res. Sta., Winnipeg, Manitoba.] Summary: In southern Manitoba the food of the red-winged blackbird consisted of up to 90 per cent vegetable material in the spring and again in the autumn. It was composed of the seeds of cereal crops, sunflowers, and weeds. In June and July, animal food, mostly insects, was dominant and represented up to 70 per cent in agricultural areas and 100 per cent in a large marsh. Young were fed entirely on animal food. When insect food increased, mineral grit decreased, its function apparently being carried out by the hard parts of insects. Differences in the food items consumed by the birds in different areas were due to differences in local abundance of foodstuffs. Food consumption per bird increased as the season progressed and in the autumn flocking period food was stored in the gullet. Red-winged blackbirds nested close to agricultural land when suitable sites were available. They also nested readily in large marshes remote from agriculture. In August and September they gathered in large flocks to feed in the fields. They required trees for resting and water for drinking close to a food supply. A suitable site for a night roost within a few miles of the feeding area was also essential. The red-winged blackbird has adapted itself to changes brought about by agriculture and has benefited from an abundant food supply. It still utilizes nesting sites in remote marshes but appears to abandon them for cultivated areas as soon as the young are able to fly.

Chamberlain, Dwight R. NEW YORK STATE CROW ROOST SURVEY. Kingbird 14(4): 208-210. Oct. 1964. WR 127: 76
Roosts in N.Y. during the winter of 1963-64 were estimated to contain 40,000 to 50,000 crows.

dos Santos, J. R., Jr. A COLONIA DA PEGA AZUL NA BARCA D'ALVA. [AN AZURE-WINGED MAGPIE COLONY (CYANOPICA CYANE) IN BARCA D'ALVA.] Ann. Fac. Ciencias do Porto 48: 265-292. 1965. [From Ibis 109(3), 1967. In Portuguese.] WR 127: 76

Folk, Čestmír. DIE GROSSENVERHÄLTNISSE UND DAS GEWICHT DER POPULATION DER DOHLE IN DER CSSR. [THE RATIOS OF SIZES AND WEIGHTS OF THE POPULATION OF THE JACKDAW (CORVUS MONEDULA L.) IN THE USSR.] Zool. Listy 15(3): 273-283, illus. 1966. [From Biol. Abstr. 48(7), 1967. In German with Czech summ.] WR 127: 76
[Czech. Acad. Sci., Brno, Czechoslovakia.]

Folk, Čestmír, and Ivana Touskova. POTRAVA HAVRANA POLNIHO CORVUS FRUGILEGUS V PREDHNIZDNIM A HNIZDNOM OBDOBI. [FEEDING OF CORVUS FRUGILEGUS IN THE PRE-NESTING AND NESTING PERIOD.] Zool. Listy 15(1): 23-32. 1966. [From Biol. Abstr. 48(7), 1967. In Czech with German summ.] WR 127: 76
[Czech. Acad. Sci., Brno, Czechoslovakia.]

Panteleev, P. A. [THE IMPORTANCE OF THE GRAY CROW IN THE VOLGA-AKHTUBA FLOOD PLAIN.] Ornitologiya 7: 484. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I447. Transl. of Russian abstr.] WR 127: 77

Pearson, Erwin W., Paul R. Skon, and George W. Corner. DISPERSAL OF URBAN ROOSTS WITH RECORDS OF STARLING DISTRESS CALLS. J. Wildl. Mgmt. 31(3): 502-506. July 1967. WR 127: 77

[Bur. Sport Fisheries & Wildl., Federal Center, Denver, Colo.] Abstract: A starling (Sturnus vulgaris) roost in Denver, Colorado, that contained 5,000 birds in October, 1964, and 1,500 in July, 1965, was dispersed both years in four evenings by starling distress calls on records played by 8 to 13 residents as birds arrived at the roost. A second roost that formed a few blocks away contained more than 10,000 starlings and a few common grackles (Quiscalus quiscula) when it was dispersed in three evenings in October, 1965, with starling distress calls played by 34 residents. If the starlings found later in outlying roosts were from this urban roost, more than 85 percent were moved to areas where they were not a nuisance. Participation by about half the residents in an urban roost area appears to be sufficient for starling dispersal. Contrary to observations by previous workers, habituation to calls did not materialize, despite almost continuous playing by several residents in each roost area.

Reinert, J. TAKT- UND RHYTHMUSUNTERSCHEIDUNG BEI DOHLEN. [TONE AND RHYTHM DISTINGUISHING BY THE JACKDAW.] Z. Tierpsychol. 22: 623-671. 1965. [From Auk 84(3), 1967. In German.] WR 127: 77

Schwab, Robert G., and Rex E. Marsh. RELIABILITY OF EXTERNAL SEX CHARACTERISTICS OF THE STARLING IN CALIFORNIA. Bird-Banding 38(2): 143-147. Apr. 1967. WR 127: 77

[Univ. Calif., Davis.] Sexing starlings (Sturnus vulgaris) by iris and bill colors was 97.7% accurate for a Calif. sample of birds.--Courtesy/ Paul A. Stewart.

Strichmann, Wilfried. BEOBACHTUNGEN AN STARENSCHLAFPLÄTZEN. [OBSERVATION ON STARLING ROOSTS.] Ornithol. Mitteil. 15(12): 261-263, illus. Dec. 1963. In German. WR 127: 77

[Auf de Goldkckern 5, Oberaden, Westphalia, Germany.] Reeds are starlings' favorite roosting sites, and 40,000-80,000 birds often occupy one roost. In late summer and fall, starlings gather and make protracted maneuvers over their roosts before nightfall. In summer the flocks settle immediately at their roosts.

OTHER BIRDS

Adamson, G. A. G. OBSERVATIONS ON THE OSTRICH (STRUTHIO CAMELUS MASSAICUS NEUMANN). East African Wildl. J. 2: 164-165. Aug. 1964. WR 127: 77

[Box 27, Isiolo, Kenya.] Cooperation of the pair in the incubation of a clutch of 23 eggs and care of the young is described. The nest was constantly guarded by the ostrich pair against potential predators (tawny eagle, bateleur eagle, and jackal).

Andersen-Harild, Pelle, C. A. Blume, Erik Kramshøj, and O. Schelde. LILLE FLAGSPAETTES (DENDROCOPOS MINOR) FOREKOMST I DANMARK OG DENS INVASION I 1962-63. [OCCURRENCE IN DENMARK OF LESSER SPOTTED WOODPECKER (DENDROCOPOS MINOR) AND ITS INVASION 1962-63.] Dansk Ornithol. Forenings Tidsskr. 60(3): 146-152, 2 figs. Sept. 1966. In Danish with English summ. WR 127: 77

[Gyldendalsvej 13, Kgs. Lyngby, Denmark.]

Bravery, J. A. FIELD NOTES ON THE ORIENTAL CUCKOO, CUCULUS SATURATUS. Emu 66(3): 267-271. Feb. 1967. WR 127: 78

[P.O. Box 178, Atherton, North Queensland, Australia.] Summary: This paper records the results of field observation of Cuculus saturatus over a lengthy period and in two areas--Atherton and Brisbane. There is particular reference to plumage coloration and to feeding habits.

Coomans de Ruiter, L. DE AALSCHOLVER PHALACROCORAX CARBO SINENSIS ALS BROEDVOGEL IN NEDERLAND, IN VERGELIJKINS MET ANDERE WESTEUROPESE LANDEN. [THE CORMORANT PHALACROCORAX CARBO SINENSIS AS A BREEDING BIRD IN HOLLAND COMPARED WITH OTHER WESTERN EUROPEAN COUNTRIES.] Limosa 39: 187-212. 1966. [From Ibis 109(3), 1967. In Dutch.] WR 127: 78

Ern, H. ZUR ÖKOLOGIE UND VERBREITUNG DES BLAUKEHLCHENS, LUSCINIA SVECICA, IN SPANIEN. [ON THE ECOLOGY AND DISTRIBUTION OF THE BLUETHROAT LUSCINIA SVECICA IN SPAIN.] J. Ornithol. 107: 310-314. 1966. [From Auk 84(3), 1967. In German with Spanish summ.] WR 127: 78

Fisher, Harvey I. BODY WEIGHTS IN LAYSAN ALBATROSSES DIOMEDEA IMMUTABILIS. Ibis 109(3): 373-382, 4 figs. July 1967. WR 127: 78

[Southern Ill. Univ., Carbondale.]

Fog, Jorgen. LIDT OM SORTMEJSENS (PARUS ATER ATER L.) YNGLEBIOLOGI. [ON THE BREEDING BIOLOGY OF THE COAL TIT, PARUS ATER ATER L.] Dansk Ornithol. Forenings Tidsskr. 59(2): 65-73, illus. 1965. [From Biol. Abstr. 48(2), 1967. In Danish with English summ.] WR 127: 78

Frings, Hubert, Mable Frings, and Carl Frings. AN ANNOTATED BIBLIOGRAPHY ON NORTH PACIFIC ALBATROSSES. Pacific Sci. 20(3): 312-337. 1966. [From Biol. Abstr. 48(6), 1967.] WR 127: 78

[Univ. Hawaii, Honolulu.]

Fry, C. H. STUDIES OF BEE-EATERS. Nigerian Field 32: 4-17. 1967. [From Auk 84(3), 1967.] WR 127: 78

Five species in characteristic displays and postures are illustrated.

Ishizawa, J., and S. Chiba. [FOOD ANALYSIS OF FOUR SPECIES OF CUCKOOS IN JAPAN.] Misc. Repts. Yamashina's Inst. Ornithol. 4: 302-326. 1966. [From Auk 84(3), 1967. In Japanese with English summ.] WR 127: 78

"Cuculus canorus, C. saturatus, C. poliocephalus, and C. fugax."

Kuroda, Nagahisa. A NOTE ON THE PROBLEM OF HAWK-MIMICRY IN CUCKOOS. Japanese J. Zool. 15(2): 173-181, illus. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 78

[Yamashina's Inst. Ornithol., Shibuya, Tokyo, Japan.]

Löhrl, Hans. EINIGE ZAHLEN ZUR BRUTBIOLOGIE DES KLEIBERS (SITTA EUROPAEA). [SOME FIGURES ON THE BREEDING BIOLOGY OF THE EUROPEAN NUTHATCH.] Anz. Orn. Ges. Bayern 7: 717-722. 1966. [From Bird-Banding 38(2), 1967. In German.] WR 127: 78

McIlwaine, C. Patricia. FLUCTUATIONS IN THE NUMBER OF GIANT PETRELS AT NGAURANGA, WELLINGTON HARBOUR, NEW ZEALAND. Emu 64(1): 33-38, 2 figs. Oct. 1964. WR 127: 78

[DSIR, Lower Hutt, New Zealand.] Summary: Weekly counts of giant petrels were made at Ngauranga, Wellington Harbour, from May 1958 to May 1962. There is a definite correlation between the number of petrels at the Ngauranga freezing works and the amount of offal available, petrel numbers reaching a maximum from November to February coinciding with the peak period of lamb killing. Counts of petrels were compared with the weekly whale killing figures at the Tory Channel Whaling Station, Cook Strait, indicating that petrels were generally absent from Ngauranga during the whaling seasons. The effect of migratory movements of giant petrels on the numbers present at Ngauranga throughout the year is discussed.

Naik, R. M., and S. Naik. STUDIES ON THE HOUSE SWIFT APUS AFFINUS (G. E. GRAY). 4. GONADAL CYCLE. Pavo 3: 77-88. 1965. [From Ibis 109(3), 1967.] WR 127: 79

Naik, R. M., and S. Naik. STUDIES ON THE HOUSE SWIFT APUS AFFINUS (G. E. GRAY). 5. MOULT CYCLE IN THE ADULTS. Pavo 3: 96-120. 1965. [From Ibis 109 (3), 1967.] WR 127: 79

Ouellet, Henri. HISTOIRE ET DISPERSION DE LA FAUVETTE AZURÉE DENDROICA CERULEA (WILSON) DANS LA PROVINCE DE QUÉBEC, CANADA. [HISTORY AND DISTRIBUTION OF THE CERULEAN WARBLER, DENDROICA CERULEA (WILSON) IN THE QUEBEC PROVINCE, CANADA.] Nat. Canadien 93(4): 335-337. 1966. [From Biol. Abstr. 48(6), 1967. In French with English summ.] WR 127: 79

[McGill Univ., Montreal, Quebec, Canada.] Ornithological surveys in the Monteregian Hills of the St. Lawrence peneplain show an annual increase in the northward dispersal of the cerulean warbler in southern Quebec. Invasion originates through the Hudson river valley and the Lake Champlain lowlands.

Ozawa, K. [OBSERVATION OF THE BROWN BOOBY, AROUND KUSAGAKIJIMA AND SUMISU-TO, SOUTH OF JAPAN.] Misc. Repts. Yamashina's Inst. Ornithol. Zool. 4: 378-383. 1966. [From Auk 84(3), 1967. In Japanese with English summ.] WR 127: 79

"Sula leucogaster."

Sibley, Fred C., and Roger B. Clapp. DISTRIBUTION AND DISPERSAL OF CENTRAL PACIFIC LESSER FRIGATEBIRDS FREGATA ARIEL. Ibis 109(3): 328-337, 2 figs. July 1967. WR 127: 79

[Smithsonian Inst., US Natl. Museum, Washington, D.C.] Most of the young lesser frigatebirds from the Phoenix Islands travel to the Solomon Islands, Bismarck Archipelago, New Guinea, or the Philippines. A few travel farther north to the Ryukyu Islands, Japan, Taiwan, and Siberia, and a few also move to areas southwest and southeast of the Phoenix Islands. Most of the dispersal to these latter areas apparently occurs earlier than the dispersal to the Solomons. The dispersal pattern may be dependent in part of the surface wind pattern.--From summ.

Simpson, John E. SWIFTS IN SEA-BREEZE FRONTS. British Birds 60(6): 225-239, 5 figs. June 1967. WR 127: 79

[Lasham Gliding Centre, Alton, Hampshire, England.] Sea-breeze fronts in south-east England are described, with details of their frequency and probable times of passing Lasham Gliding Centre, 30 miles inland in Hampshire. Methods of recognizing, forecasting and recording these fronts are discussed. Swifts Apus apus have been seen from gliders and aeroplanes soaring in the band of rising air, apparently feeding on insects which have been concentrated in the convergence zone. The birds have been chiefly at heights of about 800 feet, but have been seen up to 3,000 feet. Radar echoes from some sea-breeze fronts appear to be due to the presence of these birds.--From summ.

Sopyev, O. V. [THE DESERT SPARROW IN THE KARA-KUMS.] Ornitologiya 7: 134-141. 1965. [From Bird-Banding 38(2), 1967. In Russian.] WR 127: 79

Life history observations of Passer simplex made during 1959-1963 with comparisons made with the American species: Amphispiza bilineata.

Won, Pyong-Oh, Sang-Wook Kim, and Chung-Hyum Kim. [BREEDING BIOLOGY AND CHICK FOOD OF VARIED TIT PARUS VARIUS IN KOREA.] Misc. Repts. Yamashina's Inst. Ornithol. Zool. 4(3/4): 198-207. 1965. [From Biol. Abstr. 48(2), 1967. In Japanese with English summ.] WR 127: 79

[Kyung Hee Univ., Seoul, Korea.]

REPTILES & AMPHIBIANS

Abalos, J. W., E. C. Baez, and R. Nader. SERPIENTES DE SANTIAGO DEL ESTERO (REPUBLICA ARGENTINA). [SNAKES OF SANTIAGO DEL ESTERO (REPUBLIC OF ARGENTINA).] Acta Zool. Lilloana 20: 211-283, illus. 1964. [From Biol. Abstr. 48(1), 1967. In Spanish with English summ.] WR 127: 80

[Tec. Inst. Nac. Microbiol., Santiago del Estero, Argentina.] Twenty-five species listed.

Aebli, Heinrich. RASSENUNTERSCHIEDE IN BEZUG AUF ENTWICKLUNGSGESCHWINDIGKEIT UND GESCHLECHTSDIFFERENZIERUNG BEI RANA TEMPORARIA IN DEN TÄLERN DES KANTONS GLARUS (SCHWEIZ). [RACIAL DIFFERENCES IN REGARD TO SPEED OF DEVELOPMENT AND SEX DIFFERENTIATION AMONG RANA TEMPORARIA IN THE VALLEYS OF GLARUS CANTON (SWITZERLAND).] Rev. Suisse Zool. 73(1): 1-35, 6 figs. Apr. 1966. In German with English and French summ. WR 127: 80

[Univ. Zurich, Zurich, Switzerland.] A study of 33 populations from different drainage areas and altitudes (410-2100 m) revealed that development from egg to metamorphosis varied from 2 months to 5 months. For each locality a characteristic degree of sex differentiation was found.--From summ.

Berry, P. Y. THE FOOD AND FEEDING HABITS OF THE TORRENT FROG, AMOLOPS LARUTENSIS. J. Zool. 149(2): 204-214, illus. 1966. [From Biol. Abstr. 48 (8), 1967.] WR 127: 80

[Univ. Malaya, Kuala Lumpur, Malaysia.]

Bokermann, W. C. A. NOTAS SÔBRE HYLIDAE DO ESPÍRITO SANTO (AMPHIBIA, SALIENTIA). [NOTES ON HYLIDAE OF ESPÍRITO SANTO.] Rev. Brasil Biol. 26(1): 29-37, illus. 1966. [From Biol. Abstr. 48(7), 1967. In Portuguese.] WR 127: 80

Bons, J. NOTE SUR LA PONTE DU LEZARD AGAMA BIBRONI (SAURIA, AGAMIDAE). [A NOTE ON THE EGG-LAYING OF THE LIZARD AGAMA BIBRONI (SAURIA, AGAMIDAE).] Bull. Soc. Sci. Nat. Phys. Maroc 44(1/2): 65-71, illus. 1964. [From Biol. Abstr. 48(6), 1967. In French.] WR 127: 80

[Fac. Sci., Rabat, Morocco.]

Boyles, James McGregor. ZOOGEOGRAPHY OF THE HERPETOFAUNA OF CENTRAL FLORIDA. Ph.D. thesis, Univ. Ala. 220 p. 1966. [From Dissertation Abstr. 27(9B), 1967.] WR 127: 80

Ninety-three of the one hundred and twenty-three species associated with the Florida region are analyzed. Studies indicate that the herpetofauna is derived from that of the Coastal Plain.

Bragg, Arthur N. A HYPOTHESIS TO EXPLAIN THE ALMOST UNIVERSAL USE OF TEMPORARY WATER BY BREEDING SPADEFOOT TOADS. Proc. Okla. Acad. Sci. 44: 24-25. 1964. [From Biol. Abstr. 48(7), 1967.] WR 127: 80

[Univ. Okla., Norman.]

Bruce, Richard C. A STUDY OF THE SALAMANDER GENUS PLETHODON ON THE SOUTHEASTERN ESCARPMENT OF THE BLUE RIDGE MOUNTAINS. J. Elisha Mitchell Sci. Soc. 83(2): 74-82, 2 figs. Summer 1967. WR 127: 80

[Western Carolina Coll., Cullowhee, N.C.]

Bullock, J. A. OBSERVATIONS ON THE FAUNA OF PULAU TIOMAN AND PULAU TULAI (MALAYA): 7. THE FOOD OF THE AMPHIBIANS AND REPTILES. Nat. Mus. (Singapore) Bull. 34: 85-96. 1966. [From Biol. Abstr. 48(6), 1967.] WR 127: 80

Carpenter, Charles C. THE MARINE IGUANA (AMBLYRHYNCHUS CRISTATUS) OF THE GALAPAGOS ISLANDS, ITS BEHAVIOR AND ECOLOGY. Proc. Calif. Acad. Sci. 34(6): 329-375, illus. 1966. [From Biol. Abstr. 48(8), 1967.] WR 127: 80

[Univ. Okla., Norman.]

Carpenter, Charles C. NOTES ON THE BEHAVIOR AND ECOLOGY OF THE GALAPAGOS TORTOISE ON SANTA CRUZ ISLAND. Proc. Okla. Acad. Sci. 46: 28-32. 1966. [From Biol. Abstr. 48(5), 1967.] WR 127: 81
[Univ. Okla., Norman.]

Carter, W. A. DISTRIBUTION RECORDS FOR OKLAHOMA REPTILES. Proc. Okla. Acad. Sci. 46: 33-36. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 81
[East Central State Coll., Ada, Okla.]

Cook, Francis R. ADDITIONAL RECORDS AND A CORRECTION OF THE TYPE LOCALITY FOR THE BOREAL CHORUS FROG IN NORTHWESTERN ONTARIO. Canadian Field-Nat. 78 (3): 186-192, 1 fig. July-Sept. 1964. WR 127: 81
[Natl. Museum Canada, Ottawa, Ontario.]

Corkill, N. L., and J. A. Cochrane. THE SNAKES OF THE ARABIAN PENINSULA AND SOCOTRA. Bombay Nat. Hist. Soc. 62(3): 475-506. 1965. [From Biol. Abstr. 48(1), 1967.] WR 127: 81

Dixon, James R., and Philip A. Medica. SUMMER FOOD OF 4 SPECIES OF LIZARDS FROM THE VICINITY OF WHITE SANDS, NEW MEXICO. Los Angeles County Museum, Contrib. Sci. 121: 1-6, illus. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 81
[Los Angeles County Museum Nat. Hist., Los Angeles, Calif.]

Dole, Jim W. SPRING MOVEMENTS OF LEOPARD FROGS, RANA PIPIENS SCHREBER, IN NORTHERN MICHIGAN. Am. Midland Nat. 78(1): 167-181, 5 figs. July 1967. WR 127: 81
[San Fernando Valley State Coll., Northridge, Calif.] Abstract: In spring, adult leopard frogs precede the young out of hibernation. During and for several weeks after breeding, frogs of all ages are confined to bodies of water and do not occupy the fields as in summer. Some movement occurs between ponds, involving mainly, perhaps entirely, postbreeding frogs. In 1962, 39% of the adult leopard frogs in one study area were occupying their home ranges within a week after emergence from hibernation in late April; this was possible because extensive spring flooding permitted breeding in normally less wet regions where many animals had summer ranges, and because many animals had summer home ranges adjoining ponds. In contrast, in a second study area where spring flooding was less extensive and where few animals resided near water, frogs did not abandon the ponds and begin moving to their home ranges until late May and early June; movements to the summer ranges in the fields continued throughout June and, for a few stragglers, into early July. Two adult females were trailed as they moved to their home ranges 150 and 400 m from the ponds. Details of their routes are given.

Fitzsimons, V. A CHECK-LIST, WITH SYNOPTIC KEYS, TO THE SNAKES OF SOUTHERN AFRICA. Ann. Transvaal Mus. 25(3): 35-79. 1966. [From Biol. Abstr. 48(4), 1967.] WR 127: 81
[Transvaal Museum, Pretoria, South Africa.] This list recognizes 138 spp. and sspp. falling under 46 genera and 7 families. Some 69 are endemic, 10 center in South Africa but extend their limits northward, 55 are northern intruders, 3 are cosmopolitan, and one sea snake arrives only occasionally.

Gorham, Stanley W. NOTES ON THE AMPHIBIANS OF BROWNS FLAT AREA, NEW BRUNSWICK. Canadian Field-Nat. 78(3): 154-160, 1 fig. July-Sept. 1964. WR 127: 81
[Natl. Museum Canada, Ottawa, Ontario.] Of the six species of salamanders and nine species of frogs and toads known from New Brunswick, thirteen are found in the Browns Flat area. Nova Scotia has five species of salamanders (one of which has not yet been found in New Brunswick) and eight species of frogs and toads. Prince Edward Island has four species of salamanders and five species of frogs and toads.

Griffiths, I., and A. L. de Carvalho. ON THE VALIDITY OF EMPLOYING LARVAL CHARACTERS AS MAJOR PHYLETIC INDICES IN AMPHIBIA, SALIENTIA. Rev. Brasil Biol. 25(2): 113-121, illus. 1965. [From Biol. Abstr. 48(7), 1967.] WR 127: 82
[Birbeck Coll., London, England.]

Hendrickson, J. R. OBSERVATIONS ON THE FAUNA OF PULAU TIOMAN AND PULAU TULAI (MALAYA): 5. THE REPTILES. Nat. Mus. (Singapore) Bull. 34: 53-71, illus. 1966. [From Biol. Abstr. 48(6), 1967.] WR 127: 82

Hendrickson, J. R. OBSERVATIONS ON THE FAUNA OF PULAU TIOMAN AND PULAU TULAI (MALAYA): 6. THE AMPHIBIANS. Nat. Mus. (Singapore) Bull. 34: 72-84, illus. 1966. [From Biol. Abstr. 48(6), 1967.] WR 127: 82

Khonyakina, Z. P. [BIOLOGY OF THE CAUCASIAN AGAMA OF DAGESTAN.] In: (Problems of physiology, biochemistry, zoology and parasitology.) (Makhachkala). p. 126-134. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I274. Transl. of Russian abstr.] WR 127: 82

Khonyakina, Z. P. [DISTRIBUTION AND BIOLOGY OF THE AGILE LIZARD IN DAGESTAN.] In: (Problems of physiology, biochemistry, zoology and parasitology.) (Makhachkala). p. 111-125. 1965. [From Biol. Abstr. 48(7), 1967, from Referat. Zhur., Biol., 1966, no. 2I269. Transl. of Russian abstr.] WR 127: 82

Lee, A. K., and E. H. Mercer. COCOON SURROUNDING DESERT-DWELLING FROGS. Science 157(3784): 87-88, 3 figs. 7 July 1967. WR 127: 82
[Monash Univ., Clayton, Victoria, Australia.] Abstract: A cocoon formed from a single cell layer of shed stratum corneum may reduce water loss from the skin of desert-dwelling frogs while these aestivate in soil-filled burrows. In several Australian examples, the cocoon is a single layer of cells, and thus differs from the multilayered structure obtained from an American species, Scaphiopus couchi.

Martin, A. A., and M. J. Littlejohn. THE BREEDING BIOLOGY AND LARVAL DEVELOPMENT OF HYLA JERVISIENSIS (ANURA: HYLIDAE). Proc. Linn. Soc. New South Wales 91(1): 47-57, illus. 1966. [From Biol. Abstr. 48(7), 1967.] WR 127: 82

McCann, Charles. KEY TO THE MARINE TURTLES AND SNAKES OCCURRING IN NEW ZEALAND. Tuatara 14(2): 73-81, illus. 1966. [From Biol. Abstr. 48(9), 1967.] WR 127: 82
[New Zealand Oceanogr. Inst., Wellington, New Zealand.]

McGinnis, Samuel M., and Larry L. Dickson. THERMOREGULATION IN THE DESERT IGUANA DIPSOSAURUS DORSALIS. Science 156(3783): 1757-1759, 1 fig. 30 June 1967. WR 127: 82
[Calif. State Coll., Hayward.] Abstract: The body temperature of desert iguanas implanted with miniature temperature-sensitive radio transmitters was continuously monitored in their natural habitat. Extensive thermoregulatory behavior occurred in retreat burrows prior to morning emergence. Such behavior permits the iguana to emerge from below ground at its preferred body temperature than suboptimal temperature at which activity in the burrow is initiated.

Mendelssohn, H. ON THE BIOLOGY OF THE VENOMOUS SNAKES OF ISRAEL. II. Israel J. Zool. 14(1/4): 185-212, illus. 1965. [From Biol. Abstr. 48(9), 1967.] WR 127: 82
[Tel Aviv Univ., Tel Aviv, Israel.]

Moberly, Walter Ray, III. THE PHYSIOLOGICAL CORRELATES OF ACTIVITY IN THE COMMON IGUANA, IGUANA IGUANA. Ph.D. thesis, Univ. Mich. 123 p. 1966. [From Dissertation Abstr. 27(9B), 1967.] WR 127: 82

Paul, John R. INTERGRADATION AMONG RING-NECKED SNAKES IN SOUTHEASTERN UNITED STATES. J. Elisha Mitchell Sci. Soc. 83(2): 98-102, 4 figs. Summer 1967. WR 127: 83
[Univ. South Fla., Tampa.] "Diadophis punchatus."

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